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=> d his

(FILE 'REGISTRY' ENTERED AT 13:27:35 ON 26 OCT 2000)

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      DEL HIS Y
      E NEODYMIUM, ION/CN
L1      1 S E28
      E ERBIUM, ION/CN
L2      1 S E28
      E YTTERBIUM, ION/CN
L3      1 S E30
      ACT LABEL/A
      -----
L4 (      1)SEA FILE=REGISTRY ABB=ON FLUORESCEIN/CN
L5 (      1)SEA FILE=REGISTRY ABB=ON TRIPHENYLMETHANE/CN
L6 (      1)SEA FILE=REGISTRY ABB=ON PORPHYRIN/CN
L7 (      1)SEA FILE=REGISTRY ABB=ON PHENOTHIAZINE/CN
L8 (      1)SEA FILE=REGISTRY ABB=ON PHENOXAZINE/CN
L9 (      1)SEA FILE=REGISTRY ABB=ON COUMARIN/CN
L10 (     1)SEA FILE=REGISTRY ABB=ON ACRIDINE/CN
L11 (     1)SEA FILE=REGISTRY ABB=ON THIOINDIGO/CN
L12 (     2)SEA FILE=REGISTRY ABB=ON INDIGO/CN
L13 (     1)SEA FILE=REGISTRY ABB=ON SQUARAIN/CN
L14 (     1)SEA FILE=REGISTRY ABB=ON PHTHALOCYANINE/CN
L15 (     1)SEA FILE=REGISTRY ABB=ON NAPHTHALOCYANINE/CN
L16      13 SEA FILE=REGISTRY ABB=ON L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR
L
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FILE 'HCAPLUS' ENTERED AT 13:31:29 ON 26 OCT 2000

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L17      4699 S L1 OR L2 OR L3
L18      1118 S (ERBIUM OR NEODYMIUM OR YTTERBIUM) (W) III
L19      2719 S ND3 OR ER3 OR YB3
L20      7393 S L17 OR L18 OR L19
L21      98347 S ASSAY? OR IMMUNOASSAY?
L22        2 S L20 AND L21
L23      619 S L20 (L) COMPLEX?
L24        2 S L23 AND LABEL?
L25        6 S L20 AND LABEL?
L26      87195 S L16 OR FLUORESCEIN# OR TRIPHENYLMETHANE OR PORPHYRIN# OR
RHOD
L27      45 S L26 AND L20
L28      22 S L27 AND (ANTIBO? OR COMPLEX? OR LIGAND? OR LABEL?)
L29      28 S L22 OR L24 OR L25 OR L28

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FILE 'REGISTRY' ENTERED AT 13:38:14 ON 26 OCT 2000

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      E POLYAMINOCARBOXYLIC ACID/CN
      E PYRIDINE DICARBOXYLIC ACID/CN

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FILE 'HCAPLUS' ENTERED AT 13:38:43 ON 26 OCT 2000

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L30      94 S POLYAMINOCARBOXYLIC ACID
L31      83 S PYRIDINE DICARBOXYLIC ACID
L32      177 S L30 OR L31
L33        1 S L32 AND L20
L34      3282 S ANALYTE?
L35        0 S L20 AND L34
L36      613983 S ANALYTE/RL

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Gabel 09/380,336

L37	60 S L36 AND L20
L38	21 S L37 AND (ANTIBO? OR COMPLEX? OR LIGAND? OR LABEL? OR L21)
L39	35 S L36 (L) L20
L40	10 S L39 AND (ANTIBO? OR COMPLEX? OR LIGAND? OR LABEL? OR L21)
L41	35 S L29 OR L40

Gabel 09/380,336

=> fil reg

FILE 'REGISTRY' ENTERED AT 13:43:18 ON 26 OCT 2000
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STRUCTURE FILE UPDATES: 25 OCT 2000 HIGHEST RN 299396-70-6
DICTIONARY FILE UPDATES: 25 OCT 2000 HIGHEST RN 299396-70-6

TSCA INFORMATION NOW CURRENT THROUGH July 8, 2000

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Structure search limits have been increased. See HELP SLIMIT
for details.

=> d his 11-116

(FILE 'REGISTRY' ENTERED AT 13:27:35 ON 26 OCT 2000)

	DEL HIS Y	
	E NEODYMIUM, ION/CN	
L1	1 S E28	
	E ERBIUM, ION/CN	
L2	1 S E28	
	E YTTERBIUM, ION/CN	
L3	1 S E30	
	ACT LABEL/A	

L4 (	1)SEA FILE=REGISTRY ABB=ON	FLUORESCEIN/CN
L5 (	1)SEA FILE=REGISTRY ABB=ON	TRIPHENYLMETHANE/CN
L6 (	1)SEA FILE=REGISTRY ABB=ON	PORPHYRIN/CN
L7 (	1)SEA FILE=REGISTRY ABB=ON	PHENOTHIAZINE/CN
L8 (	1)SEA FILE=REGISTRY ABB=ON	PHENOXAZINE/CN
L9 (	1)SEA FILE=REGISTRY ABB=ON	COUMARIN/CN
L10 (	1)SEA FILE=REGISTRY ABB=ON	ACRIDINE/CN
L11 (	1)SEA FILE=REGISTRY ABB=ON	THIOINDIGO/CN
L12 (	2)SEA FILE=REGISTRY ABB=ON	INDIGO/CN
L13 (	1)SEA FILE=REGISTRY ABB=ON	SQUARINE/CN
L14 (	1)SEA FILE=REGISTRY ABB=ON	PHthalOCYANINE/CN
L15 (	1)SEA FILE=REGISTRY ABB=ON	NAPhtHALOCYANINE/CN
L16	13 SEA FILE=REGISTRY ABB=ON	L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR
L		

=> d que 11;d 11;d que 12;d 12;d que 13;d 13

L1 1 SEA FILE=REGISTRY ABB=ON "NEODYMIUM, ION (ND3+)"/CN

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2000 ACS
RN 14913-52-1 REGISTRY
CN Neodymium, ion (Nd3+) (8CI, 9CI) (CA INDEX NAME)

Gabel 09/380,336

OTHER NAMES:

CN Nd3+
CN Neodymium(3+)
CN Neodymium(3+) ion
CN Neodymium, ion(3+)
DR 22541-15-7
MF Nd
LC STN Files: AGRICOLA, BIOSIS, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB,
NIOSHTIC, PIRA, PROMT, TOXLINE, TOXLIT, USPATFULL

Nd3+

3404 REFERENCES IN FILE CA (1967 TO DATE)
26 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3418 REFERENCES IN FILE CAPLUS (1967 TO DATE)

L2 1 SEA FILE=REGISTRY ABB=ON "ERBIUM, ION (ER30+)/CN

L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2000 ACS
RN 105748-20-7 REGISTRY
CN **Erbium, ion (Er30+) (9CI)** (CA INDEX NAME)
OTHER NAMES:
CN Er30+
CN Erbium(30+)
MF Er
SR CA
LC STN Files: CA, CAPLUS

Er30+

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

L3 1 SEA FILE=REGISTRY ABB=ON "YTTERBIUM, ION (YB3+)/CN

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2000 ACS
RN 18923-27-8 REGISTRY
CN **Ytterbium, ion (Yb3+) (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN Yb3+
CN Ytterbium ion(3+)
CN Ytterbium(3+)
CN Ytterbium(3+) ion

Gabel 09/380,336

MF Yb
LC STN Files: AGRICOLA, BIOSIS, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB,
TOXLINE, TOXLIT, USPATFULL

Yb3+

1732 REFERENCES IN FILE CA (1967 TO DATE)
25 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1736 REFERENCES IN FILE CAPLUS (1967 TO DATE)

=> d que l16;d l16 rn cn 1-13

L4 (1)SEA FILE=REGISTRY ABB=ON FLUORESCEIN/CN
L5 (1)SEA FILE=REGISTRY ABB=ON TRIPHENYLMETHANE/CN
L6 (1)SEA FILE=REGISTRY ABB=ON PORPHYRIN/CN
L7 (1)SEA FILE=REGISTRY ABB=ON PHENOTHIAZINE/CN
L8 (1)SEA FILE=REGISTRY ABB=ON PHENOXAZINE/CN
L9 (1)SEA FILE=REGISTRY ABB=ON COUMARIN/CN
L10 (1)SEA FILE=REGISTRY ABB=ON ACRIDINE/CN
L11 (1)SEA FILE=REGISTRY ABB=ON THIOINDIGO/CN
L12 (2)SEA FILE=REGISTRY ABB=ON INDIGO/CN
L13 (1)SEA FILE=REGISTRY ABB=ON SQUARINE/CN
L14 (1)SEA FILE=REGISTRY ABB=ON PHTHALOCYANINE/CN
L15 (1)SEA FILE=REGISTRY ABB=ON NAPHTHALOCYANINE/CN
L16 13 SEA FILE=REGISTRY ABB=ON L4 OR L5 OR L6 OR L7 OR L8 OR L9 OR
L10 OR L11 OR L12 OR L13 OR L15 OR L14

L16 ANSWER 1 OF 13 REGISTRY COPYRIGHT 2000 ACS
RN 78675-98-6 REGISTRY
CN 2-Cyclobuten-1-one, 3-hydroxy- (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **Squaraine**

L16 ANSWER 2 OF 13 REGISTRY COPYRIGHT 2000 ACS
RN 68651-46-7 REGISTRY
CN Indigo (dye) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN **AI**
CN **Indigo**

L16 ANSWER 3 OF 13 REGISTRY COPYRIGHT 2000 ACS
RN 23627-89-6 REGISTRY
CN 37H,39H-Tetranaphtho[2,3-b:2',3'-g:2'',3''-l:2''',3'''-q]porphyrazine
(9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Tetranaphtho[2,3-b:2',3'-g:2'',3''-l:2''',3'''-q]porphyrazine (8CI)
OTHER NAMES:
CN 2,3-Naphthalocyanine
CN
6,35:17,24-Diimino-8,15:33,26-dinitrilotetranaphtho[2,3-c:2',3'-h:2'',3''-
m:2''',3'''-r][1,6,11,16]tetraazacycloeicosine

CN **Naphthalocyanine**
CN Tetrabenzo[g]quinoxalino-2,3-porphyrizine

L16 ANSWER 4 OF 13 REGISTRY COPYRIGHT 2000 ACS
RN 2321-07-5 REGISTRY
CN Spiro[isobenzofuran-1(3H),9'-[9H]xanthen]-3-one, 3',6'-dihydroxy- (9CI)
(CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Fluorescein (8CI)**
OTHER NAMES:
CN 3',6'-Dihydroxyfluoran
CN 3',6'-Fluorandiol
CN 3,6-Dihydroxyspiro[xanthene-9,3'-phthalide]
CN Benzoic acid, 2-(6-hydroxy-3-oxo-3H-xanthen-9-yl)-
CN C.I. 45350:1
CN C.I. Solvent Yellow 94
CN D and C Yellow No. 7
CN Fluorescein acid
CN Japan Yellow 201
CN Japan Yellow No. 201
CN Resorcinolphthalein
CN Solvent Yellow 94
CN Yellow fluorescein

L16 ANSWER 5 OF 13 REGISTRY COPYRIGHT 2000 ACS
RN 574-93-6 REGISTRY
CN 29H,31H-Phthalocyanine (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Phthalocyanine (8CI)**
OTHER NAMES:
CN .chi.-Phthalocyanine
CN 29H,30H-Tetrabenzo[b,g,l,q]porphine
CN 5,28:14,19-Diimino-7,12:26,21-dinitrilotetrabenzo[c,h,m,r][1,6,11,16]tetra
azacycloeicosine
CN 8120S
CN Blue Pigment B
CN C.I. 74100
CN C.I. Pigment Blue 16
CN Fastogen Blue 8110
CN Fastogen Blue 8120
CN Fastogen Blue 8120B
CN Fastogen Blue 8120BS
CN Fastogen Blue GS
CN Heliogen Blue 7560
CN Heliogen Blue 7800
CN Heliogen Blue D 7560
CN Heliogen Blue D 7565
CN Heliogen Blue G
CN Heliogen Blue L 7560
CN Heliogen Blue LG
CN Irgalite Blue GLS
CN Irgazin Blue 3GT
CN Lionol Blue KW
CN Liophoton
CN Liophoton THP
CN Liophoton TPA 891

CN Monastral Fast Blue G
 CN Monolite Fast Blue GS
 CN NA 570
 CN Pigment Blue Green Phthalocyanine U
 CN Polymon Blue G
 CN Progen I
 CN PV-Fast Blue G
 CN Tetrabenzoporphyrzine
 CN Tetrabenzotetraazaporphine
 CN Tetrabenzob,g,l,q]porphine
 CN Tetrabenzob,g,l,q]porphyrzine
 CN TPA 891
 CN Vulcafor Fast Blue G
 CN Vulcanosine Fast Bremen Blue G
 CN Vynamon Blue G

L16 ANSWER 6 OF 13 REGISTRY COPYRIGHT 2000 ACS

RN 522-75-8 REGISTRY

CN Benzo[b]thiophen-3(2H)-one, 2-(3-oxobenzo[b]thien-2(3H)-ylidene)- (9CI)
 (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN **Thioindigo (6CI)**

CN [.DELTA.2,2'(3H,3'H)-Bibenzo[b]thiophene]-3,3'-dione (7CI, 8CI)

OTHER NAMES:

CN Antinolo Red B
 CN C.I. 73300
 CN C.I. Disperse Red 364
 CN C.I. Solvent Red 242
 CN C.I. Vat Red 41
 CN Ciba Pink B
 CN Disperse Red 364
 CN Durindone Printing Red B
 CN Durindone Red B
 CN Durindone Red BP
 CN Heliane Red 5B
 CN Helindon Red BB
 CN Hostasol Red 5B
 CN Isothioindigo
 CN Samaron Brilliant Pink 5B
 CN Solvent Red 242
 CN Tetra Pink B
 CN Thioindigo Red B
 CN Thioindigo Red S
 CN Tina Pink B
 CN Tyrian Red A 5B
 CN Vat Red 41
 CN Vat Red 5B

L16 ANSWER 7 OF 13 REGISTRY COPYRIGHT 2000 ACS

RN 519-73-3 REGISTRY

CN Benzene, 1,1',1''-methylidynetris- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Methane, triphenyl- (8CI)

OTHER NAMES:

CN 1,1',1''-Methylidynetris[benzene]

CN **Triphenylmethane**

CN Tritane

L16 ANSWER 8 OF 13 REGISTRY COPYRIGHT 2000 ACS
 RN 482-89-3 REGISTRY
 CN 3H-Indol-3-one, 2-(1,3-dihydro-3-oxo-2H-indol-2-ylidene)-1,2-dihydro-
 (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Indigo Pure BASF (6CI)
 OTHER NAMES:
 CN .DELTA.2,2'-Bipseudoindoxyl
 CN 11669 Blue
 CN Blue No. 201
 CN C Blue 22
 CN C.I. 73000
 CN C.I. Natural Blue 1
 CN C.I. Pigment Blue 66
 CN C.I. Vat Blue 1
 CN Cystoceva
 CN D and C Blue No. 6
 CN D+C Blue No. 6
 CN Diindogen
 CN **Indigo**
 CN Indigo Blue
 CN Indigo Ciba
 CN Indigo Ciba SL
 CN Indigo J
 CN Indigo N
 CN Indigo NAC
 CN Indigo NACCO
 CN Indigo P
 CN Indigo PLN
 CN Indigo Powder W
 CN Indigo Pure BASF Powder K
 CN Indigo Synthetic
 CN Indigo VS
 CN Indigotin
 CN Indigotin (natural)
 CN Indigotine
 CN Japan Blue 201
 CN Lithosol Deep Blue B
 CN Mitsui Indigo Paste
 CN Mitsui Indigo Pure
 CN Mitsui Indigo Pure EXN
 CN Monolite Fast Navy Blue BV
 CN Natural Blue 1
 CN Natural blue indigotin
 CN Pigment Blue 66
 CN Pigment Indigo
 CN Pigment Indigo V
 CN Synthetic Indigo
 CN Synthetic Indigo TS
 CN Vat Blue 1
 CN Vulcafix Blue R
 CN Vulcafor Blue A
 CN Vulcanosine Dark Blue L
 CN Vulcol Fast Blue GL
 CN Vynamon Blue A
 CN [.DELTA.2,2' (3H,3'H)-Biindole]-3,3'-dione

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
DISPLAY

L16 ANSWER 9 OF 13 REGISTRY COPYRIGHT 2000 ACS

RN 260-94-6 REGISTRY

CN **Acridine (8CI, 9CI)** (CA INDEX NAME)

OTHER NAMES:

CN 10-Azaanthracene

CN 2,3-Benzoquinoline

CN 9-Azaanthracene

CN Benzo[b]quinoline

CN Dibenzo[b,e]pyridine

L16 ANSWER 10 OF 13 REGISTRY COPYRIGHT 2000 ACS

RN 135-67-1 REGISTRY

CN 10H-Phenoxazine (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN **Phenoxazine (6CI, 7CI, 8CI)**

OTHER NAMES:

CN 2,3;5,6-Dibenzo-1,4-oxazine

CN Phenazoxine

L16 ANSWER 11 OF 13 REGISTRY COPYRIGHT 2000 ACS

RN 101-60-0 REGISTRY

CN 21H,23H-Porphine (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Porphine (6CI, 7CI, 8CI)

OTHER NAMES:

CN 21,22,23,24-Tetraazapentacyclo[16.2.1.13,6.18,11.113,16]tetracos-
1,3,5,7,9,11(23),12,14,16,18(21),19-undecaene

CN Porphin

CN **Porphyrin**

L16 ANSWER 12 OF 13 REGISTRY COPYRIGHT 2000 ACS

RN 92-84-2 REGISTRY

CN 10H-Phenothiazine (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN **Phenothiazine (6CI, 7CI, 8CI)**

OTHER NAMES:

CN Antage TDP

CN Contaverm

CN Danikoropa

CN Dibenzo-1,4-thiazine

CN Dibenzothiazine

CN Early bird wormer

CN ENT 38

CN Feeno

CN Fenoverm

CN Nemazene

CN Nexarbol

CN Orimon

CN Padophene

CN Penthazine

CN Phenegic

CN Phenoverm

CN Phenovis

CN Phenoxur

Gabel 09/380,336

CN Phenthiazine
CN Phenzeen
CN Reconox
CN Thiodiphenylamine

L16 ANSWER 13 OF 13 REGISTRY COPYRIGHT 2000 ACS
RN 91-64-5 REGISTRY

CN 2H-1-Benzopyran-2-one (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN **Coumarin (8CI)**

OTHER NAMES:

CN 1,2-Benzopyrone
CN 2-Propenoic acid, 3-(2-hydroxyphenyl)-, .delta.-lactone
CN 5,6-Benzo-2-pyrone
CN Benzo-.alpha.-pyrone
CN cis-o-Coumarinic acid lactone
CN Coumarinic anhydride
CN o-Hydroxycinnamic acid lactone
CN Rattex
CN Tonka bean camphor

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 13:44:13 ON 26 OCT 2000
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FILE COVERS 1967 - 26 Oct 2000 VOL 133 ISS 18
FILE LAST UPDATED: 25 Oct 2000 (20001025/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

Now you can extend your author, patent assignee, patent information, and title searches back to 1907. The records from 1907-1966 now have this searchable data in CAOLD. You now have electronic access to all of CA: 1907 to 1966 in CAOLD and 1967 to the present in HCAPLUS on STN. 'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

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(FILE 'REGISTRY' ENTERED AT 13:27:35 ON 26 OCT 2000)

Gabel 09/380,336

FILE 'HCAPLUS' ENTERED AT 13:31:29 ON 26 OCT 2000
L17 4699 S L1 OR L2 OR L3
L18 1118 S (ERBIUM OR NEODYMIUM OR YTTERBIUM) (W) III
L19 2719 S ND3 OR ER3 OR YB3
L20 7393 S L17 OR L18 OR L19
L21 98347 S ASSAY? OR IMMUNOASSAY?
L22 2 S L20 AND L21
L23 619 S L20 (L) COMPLEX?
L24 2 S L23 AND LABEL?
L25 6 S L20 AND LABEL?
L26 87195 S L16 OR FLUORESCEIN# OR TRIPHENYLMETHANE OR PORPHYRIN# OR
RHOD
L27 45 S L26 AND L20
L28 22 S L27 AND (ANTIBO? OR COMPLEX? OR LIGAND? OR LABEL?)
L29 28 S L22 OR L24 OR L25 OR L28

FILE 'REGISTRY' ENTERED AT 13:38:14 ON 26 OCT 2000
E POLYAMINOCARBOXYLIC ACID/CN
E PYRIDINE DICARBOXYLIC ACID/CN

FILE 'HCAPLUS' ENTERED AT 13:38:43 ON 26 OCT 2000
L30 94 S POLYAMINOCARBOXYLIC ACID
L31 83 S PYRIDINE DICARBOXYLIC ACID
L32 177 S L30 OR L31
L33 1 S L32 AND L20
L34 3282 S ANALYTE?
L35 0 S L20 AND L34
L36 613983 S ANALYTE/RL
L37 60 S L36 AND L20
L38 21 S L37 AND (ANTIBO? OR COMPLEX? OR LIGAND? OR LABEL? OR L21)
L39 35 S L36 (L) L20
L40 10 S L39 AND (ANTIBO? OR COMPLEX? OR LIGAND? OR LABEL? OR L21)
L41 35 S L29 OR L40

FILE 'REGISTRY' ENTERED AT 13:43:18 ON 26 OCT 2000

FILE 'HCAPLUS' ENTERED AT 13:44:13 ON 26 OCT 2000

=> d .ca l41 1-35

L41 ANSWER 1 OF 35 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 2000:202707 HCAPLUS
DOCUMENT NUMBER: 132:243708
TITLE: Improvement of the optical imaging of objects in a
strongly scattering medium by means of
contrast-enhancing dyes
AUTHOR(S): Vorob'ev, N. S.; Podgaetskii, V. M.; Smirnov, A. V.;
Tereshchenko, S. A.; Tomilova, L. G.
CORPORATE SOURCE: Institute of General Physics, Russian Academy of
Sciences, Moscow, 117942, Russia
SOURCE: Quantum Electron. (1999), 29(12), 1099-1102
CODEN: QUELEZ; ISSN: 1063-7818
PUBLISHER: Turpion Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The problem of enhancing the contrast of optical images in a strongly

- scattering medium by luminescent and absorbing dyes, topical in laser tomog., is examd. Prepns. based on diphthalocyanine compds. were selected
- on the grounds of their tropism and resistance to the action of heat and light. Images with enhanced contrast in model scattering media (an aq. soln. of milk and margarine) were obtained in the IR region of the spectrum using the radiation of a picosecond Nd laser.
- CC 73-12 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 8, 41
- ST **phthalocyanine** transition metal ion **complex** dye near IR imaging; margarine imaging milk IR transition metal ion **phthalocyanine complex**; visible spectra transition metal ion **phthalocyanine complex**
- IT Transition metals, properties
RL: PRP (Properties)
(ions, **phthalocyanine complexes**; improvement of optical imaging of objects in strongly scattering medium by means of contrast-enhancing dyes)
- IT **574-93-6D, Phthalocyanine, metal ion complexes**
7429-91-6D, Dysprosium, **phthalocyanine complexes**
7439-91-0D, Lanthanum, **phthalocyanine complexes**
7439-94-3D, Lutetium, **phthalocyanine complexes**
7440-00-8D, Neodymium, **phthalocyanine complexes**
7440-10-0D, Praseodymium, **phthalocyanine complexes**
7440-19-9D, Samarium, **phthalocyanine complexes**
7440-27-9D, Terbium, **phthalocyanine complexes**
7440-30-4D, Thulium, **phthalocyanine complexes**
7440-32-6D, Titanium, **phthalocyanine complexes**
7440-45-1D, Cerium, **phthalocyanine complexes**
7440-52-0D, Erbium, **phthalocyanine complexes**
7440-54-2D, Gadolinium, **phthalocyanine complexes**
7440-58-6D, Hafnium, **phthalocyanine complexes**
7440-60-0D, Holmium, **phthalocyanine complexes**
7440-64-4D, Ytterbium, **phthalocyanine complexes**
7440-67-7D, Zirconium, **phthalocyanine complexes**
14913-52-1D, Neodymium(3+), phthalocyanine complexes, properties 15543-40-5D, Zirconium(4+), **phthalocyanine complexes, properties** 16043-45-1D, Titanium(4+), **phthalocyanine complexes, properties** 16065-90-0D, Cerium(4+), **phthalocyanine complexes, properties** 16096-89-2D, Lanthanum(3+), **phthalocyanine complexes, properties** 18472-30-5D, Erbium(3+), **phthalocyanine complexes, properties** 18923-27-8D, Ytterbium(3+), **phthalocyanine complexes, properties** 22541-14-6D, Praseodymium(3+), **phthalocyanine complexes, properties** 22541-17-9D, Samarium(3+), **phthalocyanine complexes, properties** 22541-19-1D, Gadolinium(3+), **phthalocyanine complexes, properties** 22541-20-4D, Terbium(3+), **phthalocyanine complexes, properties** 22541-21-5D, Dysprosium(3+), **phthalocyanine complexes, properties** 22541-22-6D, Holmium(3+), **phthalocyanine complexes, properties** 22541-23-7D, Thulium(3+), **phthalocyanine complexes, properties** 22541-24-8D, Lutetium(3+), **phthalocyanine complexes, properties** 22541-25-9D, Hafnium(4+), **phthalocyanine complexes, properties**

RL: PRP (Properties)

(improvement of optical imaging of objects in strongly scattering medium by means of contrast-enhancing dyes)

REFERENCE COUNT: 20

REFERENCE(S): (2) Chance, B; Proc Natl Acad Sci USA 1993, V90, P3423

HCAPLUS

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(6) Ho, P; Appl Opt 1989, V28, P2304 HCAPLUS

(10) Licha, K; Proc SPIE Int Soc Opt Eng 1996, V2927, P192 HCAPLUS

(14) Riefke, B; Proc SPIE Int Soc Opt Eng 1996,

V2927,

P199 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 2 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 2000:87996 HCAPLUS

DOCUMENT NUMBER: 132:222210

TITLE: (+)-(18-Crown-6)-2,3,11,12-Tetracarboxylic Acid and Its Ytterbium(III) **Complex** as Chiral NMR Discriminating Agents

AUTHOR(S): Wenzel, Thomas J.; Thurston, Jolene E.

CORPORATE SOURCE: Department of Chemistry, Bates College, Lewiston, ME, 04240, USA

SOURCE: J. Org. Chem. (2000), 65(5), 1243-1248

CODEN: JOCEAH; ISSN: 0022-3263

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The compd. (+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid (I) and its ytterbium(III) complex are evaluated as chiral NMR discriminating agents. The crown ether is a useful chiral discriminating agent for protonated amino acid esters, amines, and amino alcs. The crown can also be used with neutral primary amines since amines are protonated through a neutralization reaction with a carboxylic acid moiety of the crown. Enantiodiscrimination with the crown is obsd. in methanol and acetonitrile. Addn. of ytterbium(III) nitrate to crown-substrate mixts. causes upfield shifts in the NMR spectrum of the substrate and often enhances the enantiomeric discrimination. Evidence indicates that the ytterbium(III) bonds to the carboxylic acid moieties of the crown, but enhancements in enantiomeric discrimination result from either the different assocn. consts. of the enantiomers with the crown or diastereomeric nature of the resulting crown-substrate complexes. The ytterbium complex with the crown is suitable for use in methanol but

ppts.

in acetonitrile.

CC 22-10 (Physical Organic Chemistry)

Section cross-reference(s): 21, 34, 78

ST chiral crown ether carboxylate ytterbium **complex** NMR shift reagent; protonated amino acid ester alc amine NMR shift reagent

IT Resolution (separation)

Shift reagents

((+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid and its ytterbium(III)

complex as chiral NMR shift reagents for protonated amino acid esters, amines, and amino alcs.)

- IT Alcohols, properties
 RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical process); PRP (Properties); ANST (Analytical study); PROC (Process)
 (amino, protonated; (+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid
 and its **ytterbium(III) complex** as chiral NMR shift reagents for protonated amino acid esters, amines, and amino alcs.)
- IT Amino acids, properties
 RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical process); PRP (Properties); ANST (Analytical study); PROC (Process)
 (esters, protonated; (+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid and its **ytterbium(III) complex** as chiral NMR shift reagents for protonated amino acid esters, amines, and amino alcs.)
- IT Protonation
 (of amines by carboxylic acid groups of resolving agent; (+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid and its **ytterbium(III) complex** as chiral NMR shift reagents for protonated amino acid esters, amines, and amino alcs.)
- IT Amines, properties
 RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical process); PRP (Properties); ANST (Analytical study); PROC (Process)
 (primary, protonated; (+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid and its **ytterbium(III) complex** as chiral NMR shift reagents for protonated amino acid esters, amines, and amino alcs.)
- IT 2491-20-5, Alanine methyl ester hydrochloride 6306-52-1, Valine methyl ester hydrochloride 7517-19-3, Leucine methyl ester hydrochloride 7524-52-9, Tryptophan methyl ester hydrochloride 10420-89-0, (S)-1-(1-Naphthyl)ethylamine 13062-82-3 13437-79-1,
 1-Phenylethylamine hydrochloride 19883-41-1, (R)-Phenylglycine methyl ester hydrochloride 27586-72-7, 1-Cyclohexylethylamine hydrochloride 40280-57-7,
 1-(1-Naphthyl)ethylamine hydrochloride
 RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical process); PRP (Properties); ANST (Analytical study); PROC (Process)
 ((+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid and its **ytterbium(III) complex** as chiral NMR shift reagents for protonated amino acid esters, amines, and amino alcs.)
- IT 13768-67-7, Ytterbium(III) nitrate 61696-54-6, (+)-(18-Crown-6)-2,3,11,12-tetracarboxylic Acid
 RL: ARG (Analytical reagent use); PEP (Physical, engineering or chemical process); PRP (Properties); ANST (Analytical study); PROC (Process); USES (Uses)
 ((+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid and its **ytterbium(III) complex** as chiral NMR shift reagents for protonated amino acid esters, amines, and amino alcs.)
- IT 7524-50-7, Phenylalanine methyl ester hydrochloride 15445-34-8, Lysine methyl ester hydrochloride
 RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical process); PRP (Properties); ANST (Analytical study); PROC (Process)
 (attempted resolu.; (+)-(18-crown-6)-2,3,11,12-tetracarboxylic acid
 and its **ytterbium(III) complex** as chiral NMR shift reagents for protonated amino acid esters, amines, and amino

alcs.)
 REFERENCE COUNT: 25
 REFERENCE(S): (1) Behr, J; Helv Chim Acta 1980, V63, P2096 HCAPLUS
 (2) Cross, G; J Org Chem 1997, V62, P6226 HCAPLUS
 (3) Dibella, E; J Chromatogr 1985, V328, P101 HCAPLUS
 (4) Joly, J; J Chromatogr 1990, V521, P134 HCAPLUS
 (5) Kuhn, R; Anal Chem 1992, V64, P2815 HCAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 3 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1999:811392 HCAPLUS
 DOCUMENT NUMBER: 132:45798
 TITLE: Diagnostic method based on quantification of
 extramitochondrial DNA
 INVENTOR(S): Herrnstadt, Corinna; Ghosh, Soumitra S.; Clevenger,
 William; Fahy, Eoin D.; Davis, Robert E.
 PATENT ASSIGNEE(S): Mitokor, USA
 SOURCE: PCT Int. Appl., 157 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9966075	A2	19991223	WO 1999-US13426	19990614
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9948230	A1	20000105	AU 1999-48230	19990614
PRIORITY APPLN. INFO.:				
			US 1998-97889	19980615
			US 1998-98079	19980615
			US 1999-302681	19990430
			WO 1999-US13426	19990614
AB Compns. and methods based on quantification of extramitochondrial DNA (exmtDNA) sequences are provided that are useful for detecting the presence of or risk for having a disease assocd. with altered mitochondrial function, and for identifying agents suitable for treating such diseases. The exmtDNA sequences have strong homol. to authentic mitochondrial DNA (mtDNA) sequences. A method for detg. the risk for or presence of a disease assocd. with altered mitochondrial function comprises comparing a ratio r for biol. samples contg. exmtDNA and mtDNA between subjects suspected of having such a disease and a second subject known to be free of such disease. The ratio r equals $x/(x + y)$, where x is the amt. of exmtDNA in a sample and y is the amt. of mtDNA in the sample. Genomic DNA sequences are provided with high (98%) sequence homol. with human mtDNA; exmtDNA does not yield any detectable transcripts in an RT-PCR assay but is detected in assocn. with the telomere. Primer extension assays and oligonucleotide primers are provided. The				

exmtDNA:mtDNA ratio correlates with risk for Alzheimer's disease, particularly in combination with detn. of the ApoE genotype by primer extension assay.

IC ICM C12Q001-68

CC 3-1 (Biochemical Genetics)
Section cross-reference(s): 9, 14

ST mitochondrial disease primer extension **assay** extramitochondrial DNA; diagnosis mitochondrial disease extramitochondrial DNA; sequence extramitochondrial DNA human

IT Apolipoproteins
RL: ANT (Analyte); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(E, genotyping by primer extension **assay**; diagnostic method based on quantification of extramitochondrial DNA)

IT Gene, animal
RL: ADV (Adverse effect, including toxicity); **ANT (Analyte)**; BOC (Biological occurrence); PRP (Properties); ANST (Analytical study); BIOL (Biological study); OCCU (Occurrence)
(**ND3**, quantitation of; diagnostic method based on quantification of extramitochondrial DNA)

IT Nucleic acid amplification (method)
PCR (polymerase chain reaction)
(primer extension **assay**; diagnostic method based on quantification of extramitochondrial DNA)

IT 195161-27-4 252864-80-5 252864-90-7 252865-01-3
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(detn. of ApoE genotype by primer extension **assay**; diagnostic method based on quantification of extramitochondrial DNA)

IT 195631-33-5 249570-96-5 252864-71-4
RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(primer extension **assay** to quantify exmtDNA and mtDNA; diagnostic method based on quantification of extramitochondrial DNA)

L41 ANSWER 4 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:623490 HCAPLUS

DOCUMENT NUMBER: 132:8389

TITLE: Magnetic split-flow thin fractionation of magnetically

susceptible particles

AUTHOR(S): Fuh, C. B.; Chen, S. Y.

CORPORATE SOURCE: Department of Applied Chemistry, Chaoyang University of Technology, Wufeng, Taiwan

SOURCE: J. Chromatogr., A (1999), 857(1 + 2), 193-204

CODEN: JCRAEY; ISSN: 0021-9673

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A magnetic sepn. system was recently built to extend the applications of split-flow thin (SPLITT) fractionation to magnetically susceptible particles. Here, characterize the magnetic SPLITT system is characterized

using magnetically susceptible particles and ion-labeled particles. The flow axis of sepn. channel was oriented parallel and perpendicular to gravitational forces to exclude and include, resp., gravitational effects on sepn. Both operating modes were used to test the theory exptl., with

emphasis on the parallel mode. The magnetic susceptibilities of carrier and ion-labeled particles were varied, and various ion-labeled and unlabeled particles were studied exptl., resulting in successful sepn. of labeled particles, yeasts, and cells from unlabeled ones. The minimal difference in magnetic susceptibility (.DELTA..chi.) required for complete particle sepn. was .apprx.1.75.times.10⁻⁵ [cgs], corresponding to .apprx.109 labeling ions per particle. The throughput was .apprx.7.2.times.10⁸ particles/h using the present setup. Magnetic

SPLITT fractionation shows good potential for use in obtaining particles magnetic susceptibilities from a simple theor. treatment.
CC 77-8 (Magnetic Phenomena)
Section cross-reference(s): 66
ST magnetic split flow fractionation magnetically susceptible particle; sepn system magnetic susceptibility carrier ion **labeled**
IT Yeast

(**labeled** with Cu²⁺, Fe³⁺ and **Er**³⁺; magnetic split-flow thin fractionation of magnetically susceptible particles)
IT Erythrocyte
(**labeled** with **Er**³⁺ and Fe³⁺; magnetic split-flow thin fractionation of magnetically susceptible particles)
IT 7631-86-9, Silica, processes
RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)
(**labeled** with Cu²⁺, Fe³⁺ and **Er**³⁺; magnetic split-flow thin fractionation of magnetically susceptible particles)

REFERENCE COUNT: 14
REFERENCE(S): (1) Fuh, C; Anal Biochem 1993, V208, P80 HCAPLUS
(2) Fuh, C; Anal Chem 1992, V64, P3125 HCAPLUS
(3) Fuh, C; Biotechnol Progress 1995, V11, P14

HCAPLUS
(4) Fuh, C; Ind Eng Chem Res 1994, V33, P355 HCAPLUS
(6) Fuh, C; J Microcolumn Sep 1997, V9, P205 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 5 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:466757 HCAPLUS
DOCUMENT NUMBER: 131:176948
TITLE: Control of the parameters of solid-state lasers by dynamic gratings in a DKDP crystal
AUTHOR(S): Anikeev, B. V.; Kutsenko, S. A.; Sin'ko, D. V.; Sukhorukov, V. S.
CORPORATE SOURCE: Laser Physics Division, Volgograd State University, Volgograd, 400062, Russia
SOURCE: Quantum Electron. (1999), 29(4), 319-323
CODEN: QUELEZ; ISSN: 1063-7818
PUBLISHER: Turpion Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Pulsed and continuous-wave Nd³⁺:YAG lasers were used in an exptl. study of the influence of dynamic gratings in intracavity DKDP crystal elements on the main characteristics of the radiation emitted by solid-state lasers at room temp. A hologram, formed in a DKDP crystal by a 2-beam method,

induced generation of pulsed laser radiation which had the spectral characteristics of a signal beam injected from outside as radiation from

a continuous-wave Nd³⁺: YAG laser. In expts. on a continuous-wave Nd³⁺:YAG laser the formation of a phase grating resulted in selection of transverse radiation modes. Such selection made the repetition period of the lasing spikes more regular and reduced their duration. A study was made of the dependence of the amplitude of a photoinduced elec. field, inducing photorefraction, on the polarization of the radiation of the 1.06 μm wavelength. The formation of phase gratings in a DKDP crystal was the effect of excitation of impurity centers. The results obtained indicated feasibility of extending the range of control functions which can be performed by DKDP crystal elements.

CC 73-10 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT 12005-21-9, YAG 20317-10-6, Phosphoric acid, **labeled** with deuterium, monopotassium salt, uses
 RL: DEV (Device component use); USES (Uses)
 (control of parameters of solid-state lasers by dynamic gratings in DKDP crystal)

IT **14913-52-1**, Neodymium(3+), uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (control of parameters of solid-state lasers by dynamic gratings in DKDP crystal)

REFERENCE COUNT: 28

REFERENCE(S): (1) Anikeev, B; Kvantovaya Elektron (Moscow) 1993, V20, P597 HCAPLUS
 (2) Anikeev, B; Kvantovaya Elektron (Moscow) 1996, V23, P252 HCAPLUS
 (4) Anikeev, B; Proc SPIE Int Soc Opt Eng 1992, V1839, P324 HCAPLUS
 (9) Cronin-Golomb, M; IEEE J Quantum Electron 1984, VQE-20, P12 HCAPLUS
 (12) Gurkin, O; Izv Akad Nauk SSSR Ser Fiz 1992, V56, P65 HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 6 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:212793 HCAPLUS

DOCUMENT NUMBER: 130:264132

TITLE: Radiation sensitization using texaphyrins

INVENTOR(S): Sessler, Jonathan L.; Harriman, Anthony; Miller, Richard A.; Magda, Darren; Mody, Tarak D.; Hemmi, Gregory W.

PATENT ASSIGNEE(S): Pharmacyclics, Inc., USA; Board of Regents, the University of Texas System

SOURCE: U.S., 43 pp., Cont.-in-part of U.S. 5,622,946.
 CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 21

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 5888997	A	19990330	US 1997-795393	19970204
US 5559207	A	19960924	US 1994-227370	19940414
US 5622946	A	19970422	US 1995-437968	19950510
US 6072038	A	20000606	US 1998-104870	19980625
PRIORITY APPLN. INFO.:			US 1994-227370	19940414
			US 1995-437968	19950510
			US 1995-452261	19950526
			US 1989-320293	19890306
			US 1990-539975	19900618
			US 1991-771393	19910930
			US 1992-822964	19920121
			US 1993-75123	19930609
			US 1993-135118	19931012
			US 1995-227370	19940414
			WO 1994-US6284	19940609
			WO 1994-US11491	19941012
			US 1997-795393	19970204

OTHER SOURCE(S): MARPAT 130:264132

AB The invention relates to the field of radiation sensitizers and the use of

texaphyrins for radiation sensitization and other conditions for which X-ray radiation has proven to be therapeutic.

IC ICM A61K031-555

NCL 514185000

CC 8-9 (Radiation Biochemistry)

Section cross-reference(s): 26

ST texaphyrin metal **complex** radiosensitizer neoplasm atheroma

IT **Porphyrins**

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(radiation sensitization using texaphyrins)

IT Radiolysis

(radiolysis of gadolinium texaphyrin **complex**)

IT Colon adenocarcinoma

(radiosensitization of colon adenocarcinoma cells by texaphyrin **complexes**)

IT Leukemia

(radiosensitization of leukemia cells by gadolinium texaphyrin **complex**)

IT 14127-61-8D, Calcium dication, texaphyrin **complexes**, biological studies 14302-87-5D, Mercury dication, texaphyrin **complexes**, biological studies 14546-48-6D, Manganese ion (Mn3+), texaphyrin **complexes**, biological studies 14701-22-5D, Nickel dication, texaphyrin **complexes**, biological studies 14913-52-1D, Neodymium ion(3+), texaphyrin **complexes**, biological studies 15438-31-0D, Iron dication, texaphyrin **complexes**, biological studies 16096-89-2D, Lanthanum ion(3+), texaphyrin **complexes**, biological studies 16396-66-0D, Samarium ion(2+), texaphyrin **complexes**, biological studies 16397-91-4D, Manganese dication, texaphyrin **complexes**, biological studies 16637-16-4D, Uranyl ion, texaphyrin **complexes** 18472-30-5D, Erbium ion(3+), texaphyrin **complexes**, biological studies 18923-26-7D, Cerium ion (Ce3+), texaphyrin **complexes**, biological studies 18923-27-8D, Ytterbium ion(3+), texaphyrin **complexes**, biological studies 20074-52-6D, Ferric ion, texaphyrin **complexes**, biological studies 22537-29-7D, Scandium ion(3+), texaphyrin **complexes**, biological studies 22537-40-2D, Yttrium ion(3+),

texaphyrin **complexes**, biological studies 22537-48-0D,
texaphyrin **complexes**, biological studies 22537-49-1D, Indium
ion(3+), texaphyrin **complexes**, biological studies 22541-14-6D,
Praseodymium(3+), texaphyrin **complexes**, biological studies
22541-17-9D, Samarium ion(3+), texaphyrin **complexes**, biological
studies 22541-18-0D, Europium ion(3+), texaphyrin **complexes**,
biological studies 22541-19-1D, Gadolinium ion(3+), texaphyrin
complexes, biological studies 22541-20-4D, texaphyrin
complexes, biological studies 22541-21-5D, Dysprosium ion(3+),
texaphyrin **complexes**, biological studies 22541-22-6D, Holmium
ion (Ho3+), texaphyrin **complexes**, biological studies
22541-23-7D, Thulium ion(3+), texaphyrin **complexes**, biological
studies 22541-24-8D, Lutetium ion(3+), texaphyrin **complexes**,
biological studies 22541-53-3D, Cobalt dication, texaphyrin
complexes, biological studies 22541-63-5D, Cobalt ion (Co3+),
texaphyrin **complexes**, biological studies 22541-64-6D, Nickel
ion (Ni3+), texaphyrin **complexes**, biological studies
22578-81-0D, Uranium ion(3+), texaphyrin **complexes**, biological
studies 23713-49-7D, Zinc dication, texaphyrin **complexes**,
biological studies 222018-30-6 222018-31-7
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(radiation sensitization using texaphyrins)
IT 71-30-7, Cytosine
RL: RCT (Reactant)
(reaction of gadolinium texaphyrin **complex** with cytosine)
REFERENCE COUNT: 65
REFERENCE(S): (1) Abid; Inorg Chim Acta 1984, V95, P119 HCAPLUS
(2) Acholla; J Am Chem Soc 1985, V107, P6902 HCAPLUS
(3) Acholla; Tetrahedron Lett 1984, V25, P3269
HCAPLUS
(5) Anon; EP 0196515 1986 HCAPLUS
(6) Anon; EP 0233701 A2 1987 HCAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT
L41 ANSWER 7 OF 35 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1999:171891 HCAPLUS
DOCUMENT NUMBER: 130:261101
TITLE: Sorption behavior of lanthanum(III), neodymium(III),
terbium(III), thorium(IV) and uranium(VI) on
Amberlite
XAD-4 resin functionalized with bicine **ligands**
AUTHOR(S): Dev, Kapil; Pathak, Rita; Rao, G. N.
CORPORATE SOURCE: Department of Chemistry, Indian Institute of
Technology Delhi, New Delhi, 110 016, India
SOURCE: Talanta (1999), 48(3), 579-584
CODEN: TLNTA2; ISSN: 0039-9140
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The complexing properties (capacity, pH effect, breakthrough curve) of a
chelating resin, contg. bicine **ligands**, were studied for La(III),
Nd(III),
Tb(III), Th(IV) and U(VI). Trace amts. of these metal ions were quant.
retained on the resin and recovered by eluting with 1 M HCl. The
capacity
of the resin for La(III), Nd(III), Tb(III), Th(IV) and U(VI) is 0.35,
0.40, 0.42, 0.25 and 0.38 mmol g⁻¹, resp. Sepn. of U(VI) and Th(IV) from
Page 20

- Ni(II), Zn(II), Co(II) and Cu(II) in a synthetic soln. was carried out.
 CC 79-4 (Inorganic Analytical Chemistry)
 Section cross-reference(s): 66
 IT Liquid chromatography
 (sorption behavior and liq. chromatog. sepn. of lanthanum(III),
 neodymium(III), terbium(III), thorium(IV) and uranium(VI) on Amberlite
 XAD-4 resin functionalized with bicine **ligands**)
 IT Sorption
 (sorption behavior of lanthanum(III), neodymium(III), terbium(III),
 thorium(IV) and uranium(VI) on Amberlite XAD-4 resin functionalized
 with bicine **ligands**)
 IT 7440-02-0, Nickel, processes 7440-48-4, Cobalt, processes 7440-50-8,
 Copper, processes 7440-66-6, Zinc, processes
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (sepn. of U(VI) and Th(IV) from Ni(II), Zn(II), Co(II) and Cu(II) on
 Amberlite XAD-4 resin functionalized with bicine **ligands**)
 IT 150-25-4D, Bicine, reaction with amberlite 37380-42-0D, Amberlite
 XAD-4,
 reaction with bicine
 RL: ARU (Analytical role, unclassified); ANST (Analytical study)
 (sorption behavior and liq. chromatog. sepn. of lanthanum(III),
 neodymium(III), terbium(III), thorium(IV) and uranium(VI) on Amberlite
 XAD-4 resin functionalized with bicine **ligands**)
 IT 7439-91-0, Lanthanum, analysis 7440-00-8, Neodymium, analysis
 7440-27-9, Terbium, analysis 7440-29-1, Thorium, analysis 7440-61-1,
 Uranium, analysis
 RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical
 process); ANST (Analytical study); PROC (Process)
 (sorption behavior of lanthanum(III), **neodymium(III)**
), terbium(III), thorium(IV) and uranium(VI) on Amberlite XAD-4 resin
 functionalized with bicine **ligands**)

REFERENCE COUNT: 16

- REFERENCE(S):
 (1) Berman, S; Anal Chem 1980, V52, P488 HCAPLUS
 (3) Blain, S; Analyst 1991, V116, P815 HCAPLUS
 (4) Dev, K; Talanta 1995, V42, P591 HCAPLUS
 (6) Horvath, Z; Anal Chem 1986, V58, P1352 HCAPLUS
 (7) Landing, W; Anal Chem 1986, V58, P3031 HCAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 8 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:148603 HCAPLUS

DOCUMENT NUMBER: 130:332291

TITLE: Synthesis, physicochemical characterization and
 cytotoxic screening of new **complexes** of
 cerium, lanthanum and neodymium with Warfarin and
 Coumachlor sodium salts

AUTHOR(S): Kostova, Irena; Manolov, Ilia; Konstantinov, Spiro;
 Karaivanova, Margarita

CORPORATE SOURCE: Department of Chemistry, Faculty of Pharmacy, Medical
 University, Sofia, BG-1000, Bulg.

SOURCE: Eur. J. Med. Chem. (1999), 34(1), 63-68
 CODEN: EJMCA5; ISSN: 0223-5234

PUBLISHER: Editions Scientifiques et Medicales Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The complexes of the types Ln(HW)3.bul.nH2O and Ln(HC)3.bul.nH2O [where
 Ln

= Ce, La, Nd; HW = Warfarin; HC = Coumachlor] have been synthesized by reaction of Warfarin Sodium or Coumachlor Sodium, resp., and the appropriate lanthanide nitrates in various stoichiometric ratios. The formation of the complexes has been proved on the basis of elemental anal., conductivities, IR spectroscopy and ¹H-NMR spectroscopy. It is concluded that the lactone and the keto-carbonyl groups of the ligands are bonded to the metal ion as bidentate ligands. The cond. measurements show the non-electrolytic nature of the complexes. Cytotoxicity detn. by MTT-assay shows that the inorg. salts and the complexes with Warfarin did not show any significant activity. The complexes with Coumachlor were found to be more cytotoxic. The most active compd. was the complex of Cerium with Coumachlor. All tested complexes showed similar in vitro cytotoxic profiles. This fact is in agreement with the formation of the complexes.

CC 1-4 (Pharmacology)
Section cross-reference(s): 78

ST anticoagulant lanthanide **complex** Warfarin Coumachlor cytotoxicity

IT Anticoagulants
Cytotoxicity
(prepn., physicochem. characterization, and cytotoxic screening of new **complexes** of cerium, lanthanum, and neodymium with Warfarin and Coumachlor sodium salts)

IT 81-81-2DP, Warfarin, **complexes** with rare earth metals
81-82-3DP, Coumachlor, **complexes** with rare earth metals
14913-52-1DP, Neodymium 3+, **complexes** with chromachlor and warfarin, biological studies 16096-89-2DP, Lanthanum 3+, **complexes** with chromachlor and warfarin, biological studies 18923-26-7DP, Cerium 3+, **complexes** with chromachlor and warfarin, biological studies
RL: ADV (Adverse effect, including toxicity); **ANT (Analyte)**; PNU (Preparation, unclassified); PRP (Properties); THU (Therapeutic use);

ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(prepn., physicochem. characterization, and cytotoxic screening of new **complexes** of cerium, lanthanum, and neodymium with Warfarin and Coumachlor sodium salts)

IT 129-06-6, Warfarin sodium 10045-95-1, Nitric acid, neodymium(3+) salt 10099-59-9, Nitric acid, lanthanum(3+) salt 10108-73-3, Nitric acid, cerium(3+) salt 169385-03-9
RL: RCT (Reactant)
(prepn., physicochem. characterization, and cytotoxic screening of new **complexes** of cerium, lanthanum, and neodymium with Warfarin and Coumachlor sodium salts)

REFERENCE COUNT: 25
REFERENCE(S): (1) Akman, S; J Pharmacol Exp Ther 1987, V240(2), P486

- HCAPLUS
(2) Anghileri, L; Anticancer Res 1987, V7, P1205
HCAPLUS
(3) Bag, S; J Indian Chem Soc 1981, V58, P901 HCAPLUS
(5) Dhar, M; Curr Sci 1974, V43, P714 HCAPLUS
(8) Gysling, H; J Organomet Chem 1980, V184, P417
HCAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 9 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1999:76493 HCAPLUS

DOCUMENT NUMBER: 130:215307

TITLE: Near-IR luminescent rare earth ion-sensitizer

complexes

AUTHOR(S): Hofstraat, J. W.; Wolbers, M. P. Oude; Van Veggel, F. C. J. M.; Reinhoudt, D. N.; Werts, M. H. V.; Verhoeven, J. W.

CORPORATE SOURCE: Department RGL, Akzo Nobel Central Research, Arnhem, NL-6800, Neth.

SOURCE: J. Fluoresc. (1998), 8(4), 301-308

CODEN: JOFLEN; ISSN: 1053-0509

PUBLISHER: Plenum Publishing Corp.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Rare earth ions, with relatively long luminescence lifetimes, have significant advantages for application in fields as varied as diagnostics and optical amplification. In diagnostics the long luminescence

lifetimes allow for extremely sensitive time-gated detection, where the difference in temporal behavior of scatter and background fluorescence and the long-lived rare earth luminescence was used. In optical amplification

the long excited-state lifetime makes it easier to obtain population inversion, a requirement for effective stimulated emission.

Unfortunately the absorption cross section of rare earth ion transitions is extremely low. However, via sensitized excitation by a suitable org. mol., efficient excitation was obtained. Excitation in the visible part of the spectrum can be used to excite rare earth ions which luminesce in the near-IR, such as Yb, Nd, and Er, via a fluorescein-deriv. as sensitizer. The advantages of this approach are manifold. Low-cost light sources are available for the visible part of the spectrum, and interferences from

the matrix (scatter, absorption) are minimal. Detection in the near-IR is almost interference-free. For optical amplification the wavelength regions around 1300 and 1550 nm, which can be covered with the Nd and Er complexes, resp., are the most important for applications in optical telecommunication.

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

ST near IR luminescence rare earth ion photoluminescence sensitizer; optical amplification **fluorescein** deriv

IT Energy level

Intersystem crossing

Luminescence

Luminescence quenching

Optical gain

(near-IR luminescent rare earth ion-sensitizer **complexes**)

IT Rare earth ions

RL: DEV (Device component use); PRP (Properties); USES (Uses)

(near-IR luminescent rare earth ion-sensitizer **complexes**)

IT Metacyclophanes

RL: PRP (Properties)

(rare earth **complexes**; near-IR luminescent rare earth

ion-sensitizer **complexes**)

IT 14913-52-1, Neodymium(3+), properties 18472-30-5, Erbium(3+), properties 18923-27-8, Ytterbium(3+), properties
 RL: DEV (Device component use); PRP (Properties); USES (Uses)
 (near-IR luminescent rare earth ion-sensitizer **complexes**)

IT 77-86-1, TRIS 121-44-8, Triethylamine, uses
 RL: NUU (Nonbiological use, unclassified); USES (Uses)
 (near-IR luminescent rare earth ion-sensitizer **complexes**)

IT 2321-07-5D, **Fluorescein**, derivs. 7440-00-8D, Neodymium, **fluorescein** and calixarenes and amine **complexes** 7440-52-0D, Erbium, **fluorescein** and calixarenes and amine **complexes** 7440-64-4D, Ytterbium, **fluorescein** and calixarenes and amine **complexes** 198021-16-8 198021-17-9 198021-18-0 209005-55-0D, ytterbium, erbium, neodymium **complexes** 209005-56-1D, ytterbium, erbium, neodymium **complexes**
 RL: PRP (Properties)
 (near-IR luminescent rare earth ion-sensitizer **complexes**)

IT 1310-58-3, Potassium hydroxide, reactions 27072-45-3, Fluoresceinisothiocyanate 51649-83-3, 5-Aminofluorescein
 RL: RCT (Reactant)
 (near-IR luminescent rare earth ion-sensitizer **complexes**)

IT 67-56-1, Methanol, uses 67-68-5, DMSO, uses 109-99-9, THF, uses 811-98-3, Methanol-d4 7698-05-7, Deuterium chloride 7789-20-0, Water-d2
 RL: NUU (Nonbiological use, unclassified); USES (Uses)
 (solvent; near-IR luminescent rare earth ion-sensitizer **complexes**)

REFERENCE COUNT: 25
 REFERENCE(S): (2) Ainslie, B; J Lightwave Technol 1991, V9, P220 HCAPLUS
 (3) Alpha, B; Angew Chem 1987, V99, P259 HCAPLUS
 (4) Beeby, A; Chem Phys Lett 1997, V266, P116 HCAPLUS
 (7) Diemeer, M; SPIE Proc 1995, V2527, P411 HCAPLUS
 (8) Flipse, M; Photoactive Organic Materials Science and Applications Proceedings of the NATO Advanced Research Workshop 1996, P227 HCAPLUS
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L41 ANSWER 10 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1998:618874 HCAPLUS
 DOCUMENT NUMBER: 129:227809
 TITLE: Diagnostic **neodymium(III)**, **ytterbium(III)**, or **erbium(III)** ion-ligand **complexes**
 INVENTOR(S): Hofstraat, Johannes Willem
 PATENT ASSIGNEE(S): Akzo Nobel N.V., Neth.
 SOURCE: PCT Int. Appl., 27 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9839654 A1 19980911 WO 1998-EP1287 19980228
 WO 2000039654 A3 20000106

W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG

AU 9868284 A1 19980922 AU 1998-68284 19980228
 EP 968424 A1 20000105 EP 1998-913667 19980228

R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL, IE, FI

PRIORITY APPLN. INFO.: EP 1997-200615 19970303
 US 1997-42354 19970324
 WO 1998-EP1287 19980228

AB The invention relates to a method for detection of an analyte in a test sample by a specific binding reaction among the analyte, a specific binding partner for the analyte, and an (immuno)reactant provided with a label, characterized in that the label is a lanthanide ion-ligand complex wherein the lanthanide ion is neodymium(III) ion (Nd³⁺), ytterbium(III) ion (Yb³⁺), or erbium(III) ion (Er³⁺) and the ligand comprises or is in contact with a sensitizing moiety which absorbs in the 400-1000 nm region, and preferably in the 400-800 nm region. Further, a diagnostic kit is disclosed as well as a method of detecting an analyte in a matrix of biomedical interest through an oligonucleotide, an antigen, or an antibody attached to a material, preferably core-shell latex or with specific binding sites wherein the antigen or antibody is labeled with the lanthanide ion-ligand complex and brought into contact with the analyte, after which the analyte with the lanthanide-ion complex is immobilized on the material, and, optionally, residual lanthanide-ion complex is removed, after which the sample obtained is irradiated with light in the 400-1000 nm region, and the emitted light from the sample is detected if the analyte is present in the matrix of biomedical interest. 2',7'-Dichloro-4',5'-fluorexon-4-isothiocyanate (prepn. given) was chelated with YbCl₃.6H₂O and used to label antibody to human chorionic gonadotropin for a sandwich immunoassay and amino-functionalized HIV oligonucleotide for a hybridization assay.

IC ICM G01N033-533
 CC 9-5 (Biochemical Methods)
 Section cross-reference(s): 2, 3, 27, 28, 73

ST diagnosis **label** neodymium ytterbium erbium **complex**; luminescence lanthanide **ligand complex** sensitizer; fluorexon ytterbium chelate **label**; **immunoassay** chorionic gonadotropin ytterbium **label**; hybridization **assay** ytterbium chelate **label**

IT Oligonucleotides
 RL: RCT (Reactant)
 (amino-functionalized HIV, **labeling** of; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand **complexes**)

IT Human immunodeficiency virus
 (amino-functionalized oligonucleotides of, **labeling** of;

- diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT Cyanine dyes
(as sensitizer; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT **Porphyrins**
RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(as sensitizer; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT **Ligands**
RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use);
ANST (Analytical study); BIOL (Biological study); USES (Uses)
(complexes with lanthanide ions; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT Analytical apparatus
Immunoassay
Luminescence spectroscopy
Nucleic acid hybridization
Spectroscopy
(diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT Sensors
(for luminescence in 800 to 1600 nm range; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT Oligonucleotides
RL: BPR (Biological process); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(labeled, of HIV; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT **Labeled antibodies**
RL: ARG (Analytical reagent use); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
(to human chorionic gonadotropin; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT **Antibodies**
RL: RCT (Reactant)
(to human chorionic gonadotropin; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 91-64-5D, Coumarin, derivs. 92-84-2D, 10H-Phenothiazine, derivs. 135-67-1D, Phenoxazine, derivs. 260-94-6D, Acridine, derivs. 482-89-3D, Indigo, derivs. 519-73-3D, Triphenylmethane, derivs. 522-75-8D, Thioindigo, derivs. 574-93-6D, Phthalocyanine, derivs. 2321-07-5D, Fluorescein, derivs. 13558-31-1D, derivs. 23627-89-6D,

- Naphthalocyanine**, derivs. **78675-98-6D**, **Squaraine**, derivs.
 RL: ARU (Analytical role, unclassified); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (as sensitizer; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 212957-50-1DP, conjugates with **antibodies** to human chorionic gonadotropin and with oligonucleotides
 RL: ARG (Analytical reagent use); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); PREP (Preparation); USES (Uses)
 (diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 14913-52-1D, **Nd³⁺**, **ligand complexes**, biological studies 18472-30-5D, **Er³⁺**, **ligand complexes**, biological studies 18923-27-8D, **Yb³⁺**, **ligand complexes**, biological studies
 RL: ARG (Analytical reagent use); PRP (Properties); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 28605-84-7D, **Pyridinedicarboxylic acid**, **lanthanide ion complexes**
 RL: ARG (Analytical reagent use); THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
 (diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 10025-75-9 10035-01-5 13477-89-9
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process)
 (diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 212957-50-1P
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 212957-59-0P 212957-62-5P 212957-63-6P 212957-67-0P 212957-69-2P 212957-73-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 95-88-5, **4-Chlororesorcinol** 108-24-7, **Acetic anhydride** 610-27-5, **4-Nitrophthalic acid** 3326-34-9 6096-81-7, **Iminodiacetic acid dimethyl ester** 23911-26-4 75900-75-3, **5-Amino eosin**
 RL: RCT (Reactant)
 (diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)

- IT 149541-12-8P 198021-10-2P 198021-11-3P 212957-31-8P 212957-38-5P
212957-41-0P 212957-46-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 9002-61-3, Chorionic gonadotropin
RL: **ANT (Analyte)**; THU (Therapeutic use); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(luminescent sandwich **immunoassay** for, of human; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 1461-15-0, Fluorexon
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(neodymium and ytterbium and erbium ions luminescence sensitization with; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 212957-24-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and chelation of; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)
- IT 1945-77-3, Methylthymol blue
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(ytterbium and erbium ions luminescence sensitization with; diagnostic **neodymium(III)** and **ytterbium(III)** or **erbium(III)** ion-ligand complexes)

L41 ANSWER 11 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1998:343969 HCAPLUS

DOCUMENT NUMBER: 129:73517

TITLE: Sensitized near-infrared emission from **Nd3+** and **Er3+** complexes of

fluorescein-bearing calix[4]arene cages
AUTHOR(S): Wolbers, Manon P. Oude; Van Veggel, Frank C. J. M.; Peters, Frank G. A.; Van Beelen, Eric S. E.; Hofstraat, Johannes W.; Geurts, Frank A. J.; Reinhoudt, David N.

CORPORATE SOURCE: Dep. Supramolecular Chem. and Technol., MESA Res. Inst., Univ. Twente, Enschede, NL-7500 AE, Neth.

SOURCE: Chem.--Eur. J. (1998), 4(5), 772-780

CODEN: CEUJED; ISSN: 0947-6539

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Three novel, fluorescein-contg. calix[4]arenes bearing three carboxylic acid or three diethylamide functions were synthesized for the complexation

of **Nd3+** or **Er3+**. The typical **Nd3+** luminescence in the near-IR region of the electromagnetic spectrum is increased up to seven times upon excitation via fluorescein relative to calix[4]-arene excitation. The calix[4]arene moiety itself already acts as a sensitizer; however, fluorescein is not only a more efficient sensitizer, but also makes excitation in the visible part of the electromagnetic spectrum (at approx.

500 nm) possible. In contrast, Er3+ luminescence could only be obsd. upon fluorescein excitation. The luminescence intensity is strongly dependent on the conformation properties of the ligand, the solvent, and the length of the spacer between the calix[4]arene and fluorescein. The luminescence lifetimes are solvent-dependent but independent of the length of the flexible spacer between the sensitizer and the calix[4]arene. They were detd. as 1.23-1.26 .mu.s for calix[4]arene complex 1.cntdot.Nd3+ and 1.63-1.71 .mu.s for 1.cntdot.Er3+ in DMSO solns.

CC 73-5 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 78

ST **fluorescein** bearing calixarene cage **complex**; neodymium **complex fluorescein** bearing calixarene; erbium **complex fluorescein** bearing calixarene; luminescence **fluorescein** bearing calixarene **complex**

IT Fluorescence
Luminescence
(sensitized near-IR emission from Nd3+ and Er3+ **complexes** of **fluorescein**-bearing calix[4]arene cages)

IT Metacyclophanes
RL: PRP (Properties)
(sensitized near-IR emission from Nd3+ and Er3+ **complexes** of **fluorescein**-bearing calix[4]arene cages)

IT 209005-56-1D, lanthanide **complexes**
RL: PRP (Properties)
(near-IR emission from Nd3+ and Er3+ **complexes** of **fluorescein**-bearing calix[4]arene cages)

IT 14913-52-1D, Neodymium(3+), **complexes**, properties 18472-30-5D, Erbium(3+), **complexes**, properties 209005-48-1D, lanthanide **complexes** 209005-49-2D, lanthanide **complexes** 209005-50-5D, lanthanide **complexes** 209005-51-6D, lanthanide **complexes** 209005-52-7D, lanthanide **complexes** 209005-54-9D, lanthanide **complexes** 209005-55-0D, lanthanide **complexes** 209005-57-2D, lanthanide **complexes**
RL: PRP (Properties)
(sensitized near-IR emission from Nd3+ and Er3+ **complexes** of **fluorescein**-bearing calix[4]arene cages)

L41 ANSWER 12 OF 35 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:799030 HCAPLUS
DOCUMENT NUMBER: 128:120113
TITLE: Solvent extraction of tetravalent terbium Tb(IV) and other trivalent rare earths with quaternary amine Su, Qiang; Wu, Zhijian; Gao, Chongli
AUTHOR(S):
CORPORATE SOURCE: Lab. Rare Earth Chem. & Physics, Changchun Inst. Applied Chem., Chinese Academy Sci., Changchun, Peop. Rep. China
SOURCE: Value Adding Solvent Extr., [Pap. ISEC'96] (1996), Volume 1, 605-610. Editor(s): Shallcross, David C.; Paimin, Rohani; Prvcic, Leanne M. University of Melbourne, Dep. of Chemical Engineering: Parkville, Australia.
CODEN: 65LLAT
DOCUMENT TYPE: Conference

LANGUAGE: English

AB The differences between the solvent extn. of Tb(IV) and trivalent rare earth periodate complexes with quaternary ammonium compd. were studied. The effects of extractant concn., form of the anion in the extractant, diluent, phase vol. ratio and pH of the aq. phase on the extn. of Tb(IV) and Tb(III) were investigated. Distribution ratios and sepn. factors

were calcd. Sepn. and pre-concn. of terbium from mixt. of terbium and yttrium using oxidn. and solvent extn. method are reported.

CC 68-2 (Phase Equilibriums, Chemical Equilibriums, and Solutions)

ST extn terbium rare earth quaternary amine; periodate **complex** rare earth extn amine; yttrium terbium mixt extn quaternary amine; ammonium compd quaternary extn rare earth

IT **14913-52-1**, Neodymium(3+), processes 16096-89-2, Lanthanum(3+), processes 18472-30-5, Erbium(3+), processes 18923-26-7, Cerium(3+), processes 22537-40-2, Yttrium(3+), processes 22541-14-6, Praseodymium(3+), processes 22541-17-9, Samarium(3+), processes 22541-18-0, Europium(3+), processes 22541-19-1, Gadolinium(3+), processes 22541-20-4, Terbium(3+), processes 22541-21-5, Dysprosium(3+), processes 22541-22-6, Holmium(3+), processes 22541-23-7, Thulium(3+), processes 22541-95-3, Terbium(4+), processes
 RL: **ANT (Analyte)**; PEP (Physical, engineering or chemical process); RCT (Reactant); ANST (Analytical study); PROC (Process)
 (solvent extn. of tetravalent terbium Tb(IV) and other trivalent rare earths with quaternary amine)

L41 ANSWER 13 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1997:795352 HCAPLUS

DOCUMENT NUMBER: 128:69949

TITLE: Synthesis and spectrophotometric studies of the La³⁺, Ce³⁺, Nd³⁺, Th⁴⁺ and UO₂²⁺ **complexes** of some thiohydantoin derivatives of azo dyes

AUTHOR(S): Moustafa, M. M.

CORPORATE SOURCE: Chemistry Department, Faculty of Science, Benha University, Kalubia, Egypt

SOURCE: Synth. React. Inorg. Met.-Org. Chem. (1997), 27(10), 1417-1436

CODEN: SRIMCN; ISSN: 0094-5714

PUBLISHER: Marcel Dekker, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Complexes of La³⁺, Ce³⁺, Nd³⁺, Th⁴⁺ and UO₂²⁺ with some derivs. of o-hydroxyphenylazo-1-methyl-3-phenyl-2-thiohydantoin were studied in soln.

by using spectrophotometric and conductometric titrn. methods. The compn.

of the complexes is 1:1 and 1:2 (M:L). The optimum conditions favoring the formation of the colored complexes were studied extensively and their stability consts. detd. Adherence to Beer's law was obsd. for the ppm concn. range. Spectrophotometric titrn. methods for La³⁺, Ce³⁺, Nd³⁺, Th⁴⁺ and UO₂²⁺ with EDTA in the presence of the ligand as an indicator are

reported as are interferences by several metal ions. The solid complexes were characterized by elemental analyses, thermal methods (DTA and TGA), IR and soln. 1H NMR spectra.

CC 78-7 (Inorganic Chemicals and Reactions)

Section cross-reference(s): 68, 79

IT Thermal decomposition
(of La³⁺, Nd³⁺, Th⁴⁺ and UO₂²⁺ **complexes** of thiohydantoin
derivs. of azo dyes)

IT Transition metal azo **complexes**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
(Preparation)
(prepn., thermal decompn., and spectrophotometric studies of La³⁺,
Ce³⁺, Nd³⁺, Th⁴⁺ and UO₂²⁺ **complexes** of thiohydantoin derivs.
of azo dyes)

IT Formation constant
(stability const.; of La³⁺, Nd³⁺, Th⁴⁺ and UO₂²⁺ **complexes** of
thiohydantoin derivs. of azo dyes)

IT Azo dyes
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical
study);
USES (Uses)
(thiohydantoin derivs.; prepn. and spectrophotometric studies of La³⁺,
Ce³⁺, Nd³⁺, Th⁴⁺ and UO₂²⁺ **complexes** of)

IT 161739-91-9 167637-95-8 167637-96-9
RL: ARG (Analytical reagent use); RCT (Reactant); ANST (Analytical
study);
USES (Uses)
(prepn. and spectrophotometric studies of La³⁺, Ce³⁺, Nd³⁺, Th⁴⁺ and
UO₂²⁺ **complexes** of thiohydantoin derivs. of azo dyes)

IT 7439-91-0, Lanthanum, analysis 7440-00-8, Neodymium, analysis
7440-29-1, Thorium, analysis 7440-45-1, Cerium, analysis 16637-16-4,
Uranyl ion(2+)
RL: **ANT (Analyte)**; ANST (Analytical study)
(spectrophotometric studies of La³⁺, Ce³⁺, **Nd³⁺**, Th⁴⁺ and
UO₂²⁺ **complexes** of thiohydantoin derivs. of azo dyes)

L41 ANSWER 14 OF 35 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1997:674842 HCAPLUS
DOCUMENT NUMBER: 127:337572
TITLE: Chelation behavior of some lanthanide (III), scandium
(III), yttrium (III), thorium (IV) and uranium (VI)
complexes with some hydroxy nitrosocoumarins
AUTHOR(S): Issa, Y. M.; Abdel-Ghani, N. T.; Abdel-Latif, S. A.
CORPORATE SOURCE: Beni Suef Branch, Egypt
SOURCE: Egypt. J. Chem. (1997), 40(4), 257-270
CODEN: EGJCA3; ISSN: 0367-0422
PUBLISHER: National Information and Documentation Centre
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The stability consts. of the lanthanide ions (La, Ce, Pr, Nd, Sm, Gd, Dy,
Er and Yb); Sc, Y, Th and UO₂²⁺ ions with some hydroxy nitrosocoumarins
were detd. in 40% ethanol-water mixt. at 25.degree. and 0.1 ionic
strength. It was found that the stability consts. of the complexes
increased with increasing ionic radii, from Y to Sm. The so called
"Gadolinium break" was obsd. with heavier lanthanides. Sc and Th
complexes possessed the highest stability consts. The potentiometric
measurements and conductimetric titrns. showed that 1:1 and 1:2 (M:L)
complexes were invariably formed.

CC 68-3 (Phase Equilibriums, Chemical Equilibriums, and Solutions)
Section cross-reference(s): 78

ST lanthanide ion **complexation** hydroxy nitrosocoumarin; scandium
ion **complexation** hydroxy nitrosocoumarin; yttrium ion

complexation hydroxy nitrosocoumarin; thorium ion
complexation hydroxy nitrosocoumarin; uranyl ion
complexation hydroxy nitrosocoumarin; stability const metal ion
hydroxy nitrosocoumarin

IT **Complexation**
Dissociation constant
Formation constant
Ionization constant
(chelation behavior of lanthanide (III), scandium (III), yttrium
(III),
thorium (IV) and uranium (VI) **complexes** with hydroxy
nitrosocoumarins)

IT Actinide ions
Rare earth ions
RL: PEP (Physical, engineering or chemical process); PRP (Properties);

RCT
(Reactant); PROC (Process)
(chelation behavior of lanthanide (III), scandium (III), yttrium
(III),
thorium (IV) and uranium (VI) **complexes** with hydroxy
nitrosocoumarins)

IT **14913-52-1**, Neodymium(3+), properties 16065-92-2, Thorium(4+),
properties 16096-89-2, Lanthanum(3+), properties 16637-16-4, Uranyl
ion(2+) 18472-30-5, Erbium(3+), properties 18923-26-7, Cerium(3+),
properties **18923-27-8**, Ytterbium(3+), properties 22537-29-7,
Scandium(3+), properties 22537-40-2, Yttrium(3+), properties
22541-14-6, Praseodymium(3+), properties 22541-17-9, Samarium(3+),
properties 22541-19-1, Gadolinium(3+), properties 22541-21-5,
Dysprosium(3+), properties 182954-12-7, 7-Hydroxy-4,5-dimethyl-8-
nitrosocoumarin 182954-13-8, 6-Hydroxy-4,7-dimethyl-5-nitrosocoumarin
182954-14-9, 5-Hydroxy-4,7-dimethyl-6-nitrosocoumarin 182954-15-0,
7-Hydroxy-4-methyl-8-nitrosocoumarin 182954-16-1,
6-Hydroxy-4-methyl-5,7-
dinitrosocoumarin
RL: PEP (Physical, engineering or chemical process); PRP (Properties);

RCT
(Reactant); PROC (Process)
(chelation behavior of lanthanide (III), scandium (III), yttrium
(III),
thorium (IV) and uranium (VI) **complexes** with hydroxy
nitrosocoumarins)

IT 90-33-5, 7-Hydroxy-4-methylcoumarin 2373-31-1, 6-Hydroxy-4-
methylcoumarin 5248-20-4, 6-Hydroxy-4,7-dimethylcoumarin 6335-27-9,
5-Hydroxy-4,7-dimethylcoumarin 51786-56-2, 7-Hydroxy-4,5-
dimethylcoumarin
RL: RCT (Reactant)
(chelation behavior of lanthanide (III), scandium (III), yttrium
(III),
thorium (IV) and uranium (VI) **complexes** with hydroxy
nitrosocoumarins)

IT 1344-57-6D, Uranium dioxide, **complexes** with coumarins
7429-91-6D, Dysprosium, **complexes** with coumarins
7439-91-0D, Lanthanum, **complexes** with coumarins
7440-00-8D, Neodymium, **complexes** with coumarins
7440-10-0D, Praseodymium, **complexes** with coumarins
7440-19-9D, Samarium, **complexes** with coumarins
7440-20-2D, Scandium, **complexes** with coumarins

7440-29-1D, Thorium, **complexes** with **coumarins**
 7440-45-1D, Cerium, **complexes** with **coumarins**
 7440-52-0D, Erbium, **complexes** with **coumarins**
 7440-54-2D, Gadolinium, **complexes** with **coumarins**
 7440-64-4D, Ytterbium, **complexes** with **coumarins**
 7440-65-5D, Yttrium, **complexes** with **coumarins**

182954-12-7D, **complexes** with lanthanides and actinides
 182954-13-8D, **complexes** with lanthanides and actinides
 182954-14-9D, **complexes** with lanthanides and actinides
 182954-15-0D, **complexes** with lanthanides and actinides
 182954-16-1D, **complexes** with lanthanides and actinides

RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); FORM (Formation, nonpreparative); PROC (Process)

(stability const.; chelation behavior of lanthanide (III), scandium (III), yttrium (III), thorium (IV) and uranium (VI) **complexes** with hydroxy nitrosocoumarins)

L41 ANSWER 15 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1997:214844 HCAPLUS

DOCUMENT NUMBER: 126:338064

TITLE: Cloud point extraction, preconcentration and spectrophotometric determination of erbium(III)-2-(3,5-dichloro-2-pyridylazo)-5-dimethylaminophenol

AUTHOR(S): Fernanda Silva, M.; Fernandez, Liliana; Olsina, Roberto A.; Stacchiola, Dario

CORPORATE SOURCE: Department of Analytical Chemistry, National University of de San Luis, P.O. Box 357, (5700) San Luis, Argent.

SOURCE: Anal. Chim. Acta (1997), 342(2-3), 229-238

CODEN: ACACAM; ISSN: 0003-2670

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The extn. and preconcn. of metal chelates via surfactant-mediated phase sepn. was studied. The effects on extn. parameters of several exptl. variables were evaluated. A successive approxn. method, using a least-squares computer program, was employed for the calcn. of partition and acid dissozn. consts. of the chelating reagent. A new,

high-sensitive

and low-cost methodol. for the detn. of Er(III)-2-(3,5-dichloro-2-pyridylazo)-5-dimethylaminophenol- with the nonionic surfactant, polyethylene glycol mono-p-nonylphenylether (PONPE 7.5), with a cloud point extn. step prior to absorptiometric detn.- was developed and optimized. Under the optimal exptl. conditions, the molar absorptivity was 1.27 .times. 10⁵ Lmol⁻¹cm⁻¹. Calibration plot of absorbance (584 nm) vs. concn. was linear within the range 0.02-2 mgL⁻¹ Er(III). The lower limit of detection (LOD) was 1.48 .times. 10⁻⁷ molL⁻¹. The proposed procedure was successfully applied to the detn. of Er(III) in synthetic samples, reproducing superconducting materials and permanent magnets.

CC 79-6 (Inorganic Analytical Chemistry)

Section cross-reference(s): 76, 77

IT 7440-52-0, Erbium, analysis

RL: ANT (Analyte); PRP (Properties); ANST (Analytical study)

(cloud point extn., preconcn. and spectrophotometric detn. of **erbium(III)-2-(3,5-dichloro-2-pyridylazo)-5-**

- dimethylaminophenol via surfactant-mediated phase sepn.)
- IT 7440-52-0D, Erbium, 2-(3,5-dichloro-2-pyridylazo)-5-dimethylaminophenol **complex** 108609-82-1D, 2-(3,5-Dichloro-2-pyridylazo)-5-(dimethylamino)phenol, erbium **complex**
 RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
 (cloud point extn., preconcn. and spectrophotometric detn. of erbium(III)-2-(3,5-dichloro-2-pyridylazo)-5-dimethylaminophenol via surfactant-mediated phase sepn.)
- L41 ANSWER 16 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1997:130774 HCAPLUS
 DOCUMENT NUMBER: 126:287235
 TITLE: Micellar-enhanced highly sensitive spectrophotometric determination of erbium(III) with 3,5-diClDMPAP and TX-100
 AUTHOR(S): Silva, Maria Fernanda; Fernandez, Liliana; Olsina, Roberto A.
 CORPORATE SOURCE: Fac. Chem., Natl. Univ. San Luis, San Luis, Argent.
 SOURCE: An. Quim. Int. Ed. (1996), 92(6), 344-348
 CODEN: AQIEFZ
 PUBLISHER: Springer
 DOCUMENT TYPE: Journal
 LANGUAGE: English
- AB The optimum conditions for formation of Er(III)-2-(3,5-dichloro-2-pyridylazo)-5-dimethylaminophenol (3,5-diClDMPAP) in micelles of TX-100 are described. The molar absorptivity was 1.39 .times. 10⁵ L mol⁻¹ cm⁻¹ at 592 nm. The absorption spectroscopy of the surfactant-sensitized complex was examd. in detail to set up the influence of various exptl. parameters. The procedure was successfully applied to the detn. of Er(III) in superconducting materials and permanent magnets.
- CC 79-6 (Inorganic Analytical Chemistry)
 Section cross-reference(s): 76, 77
- IT Molar absorptivity
 UV and visible spectra
 (of rare earth-(dichloropyridylazo)dimethylaminophenol **complexes**)
- IT 7440-52-0, Erbium, analysis
 RL: **ANT (Analyte)**; PRP (Properties); ANST (Analytical study)
 (micellar-enhanced highly sensitive spectrophotometric detn. of **erbium(III)** using 3,5-diClDMPAP and TX-100)
- IT 108609-82-1D, 2-(3,5-Dichloro-2-pyridylazo)-5-dimethylaminophenol, rare earth **complexes**
 RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
 (visible spectra of)
- IT 7440-00-8D, Neodymium, (dichloropyridylazo)dimethylaminophenol **complex** 7440-10-0D, Praseodymium, (dichloropyridylazo)dimethylaminophenol **complex** 7440-19-9D, Samarium, (dichloropyridylazo)dimethylaminophenol **complex** 7440-52-0D, Erbium, (dichloropyridylazo)dimethylaminophenol **complex** 7440-53-1D, Europium, (dichloropyridylazo)dimethylaminophenol **complex** 7440-54-2D, Gadolinium, (dichloropyridylazo)dimethylaminophenol **complex** 7440-64-4D, Ytterbium, (dichloropyridylazo)dimethylaminophenol **complex**
 RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)

(visible spectrum of)

L41 ANSWER 17 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1996:637439 HCAPLUS

DOCUMENT NUMBER: 125:328394

TITLE: Texaphyrin metal **complex** mediated ester hydrolysis

INVENTOR(S): Sessler, Jonathan L.; Smith, Daniel A.; Miller, Richard A.; Ross, Kevin L.; Wright, Meredith; Dow, William C.; Kral, Vladimir A.; Iverson, Brent; Magda, Darren

PATENT ASSIGNEE(S): Board of Regents, University of Texas, USA; Pharmacyclics, Inc.

SOURCE: U.S., 45 pp. Cont.-in-part of U.S. Ser. No. 75,123, abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 21

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5559207	A	19960924	US 1994-227370	19940414
US 4935498	A	19900619	US 1989-320293	19890306
US 5162509	A	19921110	US 1990-539975	19900618
US 5252720	A	19931012	US 1992-822964	19920121
CA 2164419	AA	19941222	CA 1994-2164419	19940609
WO 9429316	A2	19941222	WO 1994-US6284	19940609
WO 9429316	A3	19950202		
W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, GE, HU, JP, KG, KP, KR, KZ, LK, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, US, US, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9470526	A1	19950103	AU 1994-70526	19940609
AU 694737	B2	19980730		
EP 702685	A1	19960327	EP 1994-919354	19940609
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08511532	T2	19961203	JP 1994-501981	19940609
US 5567687	A	19961022	US 1994-310501	19940921
US 5798491	A	19980825	US 1995-458347	19950602
US 5607924	A	19970304	US 1995-469177	19950606
US 5565552	A	19961015	US 1995-487722	19950607
US 5595726	A	19970121	US 1995-486311	19950607
US 5763172	A	19980609	US 1995-486962	19950607
US 5888997	A	19990330	US 1997-795393	19970204
US 5969111	A	19991019	US 1997-775261	19970204
PRIORITY APPLN. INFO.:			US 1989-320293	19890306
			US 1990-539975	19900618
			US 1991-771393	19910930
			US 1992-822964	19920121
			US 1993-75123	19930609
			US 1993-112872	19930825
			US 1994-227370	19940414
			WO 1994-US6284	19940609

US 1994-310501 19940921
 WO 1994-US11491 19941012
 US 1995-437968 19950510
 US 1995-452261 19950526
 US 1995-485581 19950607

OTHER SOURCE(S): MARPAT 125:328394

AB A method of phosphate ester hydrolysis including incubating a soln. of an aq. phosphate ester with a texaphyrin metal complex I, wherein M is a di- or trivalent metal cation having catalytic activity for ester bond hydrolysis in aq. soln., R1-R6 are independently H, OH, alkyl, hydroxyalkyl, oxyalkyl, oxyhydroxyalkyl, saccharide, carboxyalkyl, carboxyamidealkyl, a site-directed mol. or a couple to a site-directed mol. or to a catalytic group, N is an integer less than or equal to 2. The metal is a metal cation having catalytic activity for ester bond hydrolysis in aq. soln., in particular, a lanthanide metal cation, preferably Eu(III) or Dy(III). A preferred substrate is RNA and a preferred texaphyrin is a derivatized texaphyrin having binding specificity, in particular, a texaphyrin covalently coupled to a site-directed mol., preferably an oligonucleotide.

IC ICM C07K002-00
 ICS C07K016-00; C07H003-00; C07F005-00

NCL 530300000

CC 26-7 (Biomolecules and Their Synthetic Analogs)
 Section cross-reference(s): 22, 33, 34

ST phosphate ester hydrolysis texaphyrin **complex** catalyst;
 texaphyrin lanthanide metal **complex** hydrolysis catalyst;
 europium cation texaphyrin **complex** hydrolysis catalyst;
 dysprosium cation texaphyrin **complex** hydrolysis catalyst; RNA
 phosphate bond cleavage texaphyrin **complex**; oligonucleotide
 linked texaphyrin **complex** hydrolysis catalyst

IT **Antibodies**

Hormones

Peptides, reactions

RL: RCT (Reactant)

(linked to; texaphyrin lanthanide metal **complex** mediated
 phosphate ester hydrolysis)

IT **Receptors**

RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (substrate linked to; texaphyrin lanthanide metal **complex**
 mediated phosphate ester hydrolysis)

IT **Hydrolysis**

Hydrolysis catalysts

Kinetics of hydrolysis

(texaphyrin lanthanide metal **complex** mediated phosphate ester
 hydrolysis)

IT **Phosphates, reactions**

Rare earth metals, reactions

Ribonucleic acids

RL: RCT (Reactant)

(texaphyrin lanthanide metal **complex** mediated phosphate ester
 hydrolysis)

IT **Porphyrins**

RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation);
 PREP (Preparation); USES (Uses)

(metal **complexes**, texaphyrin lanthanide metal **complex**
 mediated phosphate ester hydrolysis)

IT **Nucleotides, reactions**

RL: RCT (Reactant)
 (oligo-, linked to; texaphyrin lanthanide metal **complex**
 mediated phosphate ester hydrolysis)

IT 14913-52-1P, Neodymium, ion (Nd³⁺), preparation
 16096-89-2P, preparation 22541-17-9P, Samarium, ion (Sm³⁺), preparation
 22541-18-0P, Europium, ion (Eu³⁺), preparation 22541-19-1P, Gadolinium,
 ion (Gd³⁺), preparation 22541-21-5P, Dysprosium, ion (Dy³⁺),
 preparation
 22541-23-7P, Thulium, ion (Tm³⁺), preparation 22541-24-8P, Lutetium,
 ion
 (Lu³⁺), preparation 151892-94-3P 151892-95-4P 151893-03-7P
 158272-82-3P 164388-21-0P 164388-23-2P 164388-25-4P 164388-27-6P
 164388-31-2P 164388-33-4P 164388-35-6P 164388-37-8P 164388-39-0P
 173083-30-2P 182630-73-5P 183258-26-6P
 RL: CAT (Catalyst use); PRP (Properties); SPN (Synthetic preparation);
 PREP (Preparation); USES (Uses)
 (texaphyrin lanthanide metal **complex** mediated phosphate ester
 hydrolysis)

IT 84-53-7, 3'-UMP 131-83-9, 2'-UMP 610-81-1, 4-Amino-3-nitrophenol
 623-48-3, Ethyl iodoacetate 859-38-1 1184-63-0, Acetic acid,
 europium(3+) salt 2415-43-2 3750-36-5 4004-57-3, CUMP 7425-53-8,
 Ethyl 4-iodobutyrate 10031-51-3, Erbium nitrate pentahydrate
 10277-43-7, Lanthanum nitrate hexahydrate 13451-19-9, Terbium
 trinitrate
 hexahydrate 14483-17-1, Praseodymium trinitrate pentahydrate
 16200-52-5, 3,4-Diethylpyrrole 16454-60-7, Neodymium nitrate
 hexahydrate
 24581-35-9, Samarium trinitrate pentahydrate 35725-30-5, Dysprosium
 nitrate hexahydrate 35725-31-6, Holmium nitrate hexahydrate
 35725-34-9, Ytterbium trinitrate pentahydrate 36548-87-5, Thulium
 trinitrate pentahydrate 52788-53-1, Gadolinium nitrate pentahydrate
 63026-01-7, Europium trinitrate pentahydrate 74418-77-2 81201-60-7,
 Lutetium nitrate monohydrate 99646-38-5, Acetic acid, europium(3+)
 salt,
 monohydrate 149365-58-2 182630-72-4
 RL: RCT (Reactant)
 (texaphyrin lanthanide metal **complex** mediated phosphate ester
 hydrolysis)

IT 809-27-8P 992-36-9P 59820-55-2P 59820-64-3P 149350-10-7P
 149365-59-3P 149365-60-6P 149365-61-7P 149365-62-8P 149365-63-9P
 161925-01-5P 164388-47-0P 164388-49-2P 165588-57-8P 182630-65-5P
 182630-66-6P 182630-67-7P 182630-68-8P 182630-69-9P 182630-70-2P
 182630-71-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (texaphyrin lanthanide metal **complex** mediated phosphate ester
 hydrolysis)

IT 164388-48-1P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (texaphyrin lanthanide metal **complex** mediated phosphate ester
 hydrolysis)

L41 ANSWER 18 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1996:569579 HCAPLUS

DOCUMENT NUMBER: 125:263980

TITLE: Structural and Dynamic Information on Double-Decker
Yb³⁺ and Dy³⁺ Porphyrin
Complexes in Solution through 1H NMR

AUTHOR(S): Bertini, Ivano; Coutsolelos, Athanassios; Dikiy, Alexander; Luchinat, Claudio; Spyroulias, Georgios; Troganis, Anastassios

CORPORATE SOURCE: Department of Chemistry, University of Florence, Florence, 50121, Italy

SOURCE: Inorg. Chem. (1996), 35(21), 6308-6315
CODEN: INOCAJ; ISSN: 0020-1669

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The ¹H NMR spectra of [YbH(tp₂)], [DyH(tp₂)], [YbH(oep)(tp)], and [DyH(oep)(tp)], where tp is tetraphenylporphyrin and oep is octaethylporphyrin, were analyzed. The aim of this research is to set the limits of information which can be obtained through sophisticated NMR expts. regarding the structure and dynamics in small lanthanide complexes.

The Ph rings rotate at a rate of .apprx.30 s⁻¹ as measured for [YbH(tp₂)]. The av. position of the Me groups of oep with respect to the porphyrin plane was detd. Finally, for the dysprosium complexes a structural model in soln. is proposed which fits the pseudocontact shift requirements. Besides mobility, the structure in soln. is similar to that in the solid state of the analogous samarium asym. complex.

CC 77-7 (Magnetic Phenomena)
Section cross-reference(s): 22, 78

ST NMR rare earth tetraphenylporphyrin octaethylporphyrin **complex**

IT Molecular dynamics
Nuclear magnetic resonance
(structural and dynamic information on double-decker **Yb3+** and Dy3+ **porphyrin complexes** in soln. through ¹H NMR)

IT Molecular structure-property relationship
(NMR, structural and dynamic information on double-decker **Yb3+** + and Dy3+ **porphyrin complexes** in soln. through ¹H NMR)

IT 135503-79-6 135503-84-3 182182-13-4 182262-14-2
RL: PRP (Properties)
(structural and dynamic information on double-decker **Yb3+** and Dy3+ **porphyrin complexes** in soln. through ¹H NMR)

L41 ANSWER 19 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1995:871072 HCAPLUS

DOCUMENT NUMBER: 123:323970

TITLE: The impurity processing system for the JET Active Gas Handling System - inactive commissioning

AUTHOR(S): Lupo, J.; Hemmerich, J. L.; Lasser, R.; Yorkshades, J.; Salanave, J. L.

CORPORATE SOURCE: JET Joint Undertaking, Abingdon, Oxfordshire, OX14 3EA, UK

SOURCE: Fusion Technol. (1995), 28(3, Pt. 2), 1347-52
CODEN: FUSTE8; ISSN: 0748-1896

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The Impurity Processing (IP) system is designed to recover tritium from tritiated compds. (Q2O, CxQy, NQ3, with Q = H, D, T and x.gtoreq.1, y.gtoreq.4) collected from the JET torus or generated during the processing of gases inside the Active Gas Handling System (AGHS). The

recovery process involves diln. of the impurities in helium, addn. of oxygen, recirculation of the helium-impurities-oxygen mixt. over a hot recombiner (773 K) to generate water and CO₂, and trapping of the water on 160 K cold surfaces. The remaining gas species He, CO₂, O₂, N₂ (with a very small tritium concn.) are transferred finally to the Exhaust Detritiation (ED) system for further redn. of the tritium concn. by at least a factor of 1000. The cold trap is heated (473 K) and the water vapor passed over two hot iron beds at 823 K to "crack" the water. The recovered hydrogen isotopes are stored in cold uranium beds (U-beds) for further processing in AGHS.

CC 71-2 (Nuclear Technology)

IT Hydrocarbons, processes
 RL: REM (Removal or disposal); PROC (Process)
 (labeled with deuterium, impurity processing system for the JET tokamak Active Gas Handling System)

IT Hydrocarbons, processes
 RL: REM (Removal or disposal); PROC (Process)
 (labeled with tritium, impurity processing system for the JET tokamak Active Gas Handling System)

IT 74-82-8, Methane, processes 558-20-3, Methane (CD₄) 676-95-9, Methane-t₄ 7664-41-7, Ammonia, processes 7727-37-9, Nitrogen, processes 7782-44-7, Oxygen, processes 7789-20-0, Water-d₂ 13550-49-7, Ammonia (ND₃) 14940-65-9, Water (T₂O) 15070-37-8, Ammonia, t₃
 RL: REM (Removal or disposal); PROC (Process)
 (impurity processing system for the JET tokamak Active Gas Handling System)

L41 ANSWER 20 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1992:461557 HCAPLUS

DOCUMENT NUMBER: 117:61557

TITLE: Preparation and electrochemical properties of the green **ytterbium(III)** and lutetium(III) sandwich **complexes** of octabutoxy-substituted **phthalocyanine**

AUTHOR(S): Takahashi, Kazuhiro; Tomita, Yasuhiro; Hada, Yasuhiro;
 Tsubota, Keiji; Handa, Makoto; Kasuga, Kuninobu; Sogabe, Kunihiisa; Tokii, Tadashi

CORPORATE SOURCE: Fac. Sci., Shimane Univ., Matsue, 690, Japan

SOURCE: Chem. Lett. (1992), (5), 759-62
 CODEN: CMLTAG; ISSN: 0366-7022

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The sandwich complexes [Ln(obPc₂-)(obPc.bul.-)] (Ln = Yb, Lu; H₂obPc = 2,3,9,10,16,17,23,24-octabutoxyphthalocyanine) were prepd. and characterized. Those electrochem. properties in CH₂Cl₂ were studied by cyclic voltammetry and absorption spectra at λ = 320-1600 nm monitored during controlled-potential electrolysis.

CC 78-7 (Inorganic Chemicals and Reactions)
 Section cross-reference(s): 72

ST redox potential lanthanide butoxyphthalocyaninato **complex**;
 phthalocyaninato lutetium ytterbium **complex**

IT Electric potential
 (oxidn., of lutetium and ytterbium octabutoxyphthalocyaninato **complexes**)

IT Electric potential
(redn., of lutetium and ytterbium octabutoxyphthalocyaninato
complexes)

IT Electric potential
(redox, of lutetium and ytterbium octabutoxyphthalocyaninato
complexes)

L41 ANSWER 21 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1992:266149 HCAPLUS

DOCUMENT NUMBER: 116:266149

TITLE: The structure of Yb(ND3)5.7

AUTHOR(S): Noeldeke, C.; Damay, P.; Press, W.; Leclercq, F.;
Lippik, W.; Foukani, M.

CORPORATE SOURCE: Inst. Experimentalphys., Univ. Kiel, Kiel, D-2300,
Germany

SOURCE: J. Phys. IV (1991), 1(C5, Colloq. Weyl 7, 1991),
C5-339 - C5-344

CODEN: JPICEI; ISSN: 1155-4339

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Neutron powder diffraction was performed on 5 Yb(ND3)x samples prepd.
with

x = 5.5, 5.7, 5.9, 6.0 and 6.3. Two different low temp. (2 K) structures
were obsd.; one (1) mainly peaks of a bcc. lattice with a0 9.076 .ANG.

but

also weak simple cubic peaks, the other (2) presenting bcc. peaks only
with a0 9.111 .ANG.. At 17 K simple cubic peaks in (1) vanish, which
indicates the presence of an order-disorder phase transition. For the
orientationally disordered structure (2), Yb(ND3)5.7, showing more
disorder at low temp., a structure refinement with cubic harmonic
functions is given.

CC 75-8 (Crystallography and Liquid Crystals)

Section cross-reference(s): 78

IT Ammines

RL: PRP (Properties)

(ytterbium, **labeled** with deuterium, crystal structure of)

IT 7664-41-7

RL: PRP (Properties)

(ammines, ytterbium, **labeled** with deuterium, crystal
structure of)

L41 ANSWER 22 OF 35 HCAPLUS COPYRIGHT 2000 ACS

ACCESSION NUMBER: 1992:93860 HCAPLUS

DOCUMENT NUMBER: 116:93860

TITLE: Electrochemical salt formation in
bis(phthalocyaninato)ytterbium(III)

) - stearic acid Langmuir-Blodgett films

AUTHOR(S): Petty, Michael; Lovett, David R.; Miller, John;
Silver, Jack

CORPORATE SOURCE: Dep. Phys., Univ. Essex, Colchester, UK

SOURCE: J. Mater. Chem. (1991), 1(6), 971-6

CODEN: JMACEP; ISSN: 0959-9428

DOCUMENT TYPE: Journal

English

neg. deviation of areas per mols. from calcd. values and low collapse
of Langmuir monolayers of bis(phthalocyaninato)ytterbium(III)-
ic acid mixts. is discussed in terms of phase miscibility.

Postdeposition stearic acid salt formation in Langmuir-Blodgett films is investigated using x-ray diffraction and IR absorption studies. It is found that the salt formation occurs upon redn. of the bis(phthalocyaninato) ytterbium(III). The redox potentials of pure and mixed films of bis(phthalocyaninato)ytterbium(III) are also investigated. A wetting and/or charge-injection mechanism was obsd. for mixed films.

CC 72-4 (Electrochemistry)
 Section cross-reference(s): 66

ST electroredn yttrium photocyanine stearic acid film; salt electroformation ytterbium photocyanine stearic acid; redox potential ytterbium **phthalocyanine**

IT Reduction, electrochemical
 (of ytterbium **phthalocyanine complex** in Langmuir-Blodgett films with steric acid, salt formation in)

IT Electric potential
 (redox, of ytterbium **phthalocyanine complex** alone and in mixed films with stearic acid)

IT 57-11-4, Octadecanoic acid, uses
 RL: USES (Uses)
 (electrochem. redn. of ytterbium **phthalocyanine complex** in Langmuir-Blodgett film with, salt formation in)

IT 7447-40-7, Potassium chloride, uses
 RL: USES (Uses)
 (electrochem. redn. of ytterbium **phthalocyanine complex** in Langmuir-Blodgett films with stearic acid in soln. contg., salt formation in)

IT 50926-11-9, Indium tin oxide
 RL: PRP (Properties)
 (electrodes, ytterbium **phthalocyanine complex** with stearic acid Langmuir-Blodgett films on, cyclic voltammetry of, in potassium chloride soln.)

IT 593-29-3P, Potassium stearate
 RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, in electrochem. redn. of ytterbium **phthalocyanine complex** in Langmuir-Blodgett films with stearic acid in potassium chloride solns.)

L41 ANSWER 23 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1991:229749 HCAPLUS
 DOCUMENT NUMBER: 114:229749
 TITLE: Structural insights from the extended x-ray absorption
 fine structure of polyacrylates with paramagnetic tetraphenylporphyrinato-silver(II) and -**erbium** (III) derivatives

AUTHOR(S): Kajiwara, Atsushi; Kamachi, Mikiharu; Maeda, Hironobu
 CORPORATE SOURCE: Fac. Sci., Osaka Univ., Toyonaka, 560, Japan
 SOURCE: Polym. J. (Tokyo) (1991), 23(4), 343-6
 CODEN: POLJB8; ISSN: 0032-3896

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB EXAFS study of the poly[(5-(4-acryloyloxyphenyl)-10,15,20-triphenylporphyrinato)silver(II)] (I) showed that the bond distances of Ag-N and Ag-C were not influenced by being bonded to a polymer chain, although an electronic interaction took place. This was evidenced by comparison of the I spectra with those of 5-(4-propyloxyphenyl)-10,15,20-

- triphenylporphynatosilver(II), which had almost the same structural parameters. Two radial structure peaks at 1.9 and 2.90 .ANG. for poly[(5-(4-acryloyloxyphenyl)-10,15,20-triphenylporphynatoerbium(III) hydroxide] and its corresponding monomer were found, resp.
- CC 36-2 (Physical Properties of Synthetic High Polymers)
Section cross-reference(s): 77
- ST paramagnetic **porphyrin** polymer structure EXAFS; silver **porphyrin** polymer structure EXAFS; erbium **porphyrin** polymer structure EXAFS
- IT Coordination number
Debye-Waller temperature factor
(of silver and erbium **porphyrin** polymer **complexes**, EXAFS in detn. of)
- IT Chains, chemical
(structure of, of silver and erbium **porphyrin** polymer **complexes**, EXAFS anal. of)
- IT X-ray analysis
X-ray spectra
(EXAFS, of silver and erbium **porphyrin** polymer **complexes**)
- IT Magnetic substances
(para-, of silver and erbium **porphyrin** polymer **complexes**, EXAFS in detn. of)
- IT **Porphyrins**
RL: PRP (Properties)
(polymers, silver and erbium **complexes**, structure of, EXAFS anal. of)
- L41 ANSWER 24 OF 35 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1991:74013 HCAPLUS
DOCUMENT NUMBER: 114:74013
TITLE: Preparation of bis(tetra-2,3-pyrazinoporphyrazinato) **ytterbium(III)**
AUTHOR(S): Kasuga, Kuninobu; Nishikori, Kumi; Mihara, Takuya; Handa, Makoto; Sogabe, Kuniyoshi; Isa, Kimio
CORPORATE SOURCE: Fac. Sci., Shimane Univ., Matsue, 690, Japan
SOURCE: Inorg. Chim. Acta (1990), 174(2), 153-4
CODEN: ICHAA3; ISSN: 0020-1693
DOCUMENT TYPE: Journal
LANGUAGE: English
- AB Seven rare earth-phthalocyanine analogs, ML2 (M = Y, La, Nd, Gd, Dy, Er, Yb; H2L = tetra-2,3-pyrazinoporphyrazine) were prepd. and characterized by ESR. The mass and optical spectra of YbL2 are discussed.
- CC 78-7 (Inorganic Chemicals and Reactions)
- ST rare earth pyrazinoporphyrazinato **complex**
- IT Electron spin resonance
(of rare earth pyrazinoporphyrazinato **complexes**)
- IT Rare earth metals, compounds
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(tetrapyrazinoporphyrazine **complexes**, prepn. and ESR of)
- IT 13481-25-9, 2,3-Dicyanopyrazine
RL: RCT (Reactant)
(self-cycloaddn. reaction of, in presence of lanthanoids, metal **phthalocyanine** analogs by)

ACCESSION NUMBER: 1989:544464 HCAPLUS
 DOCUMENT NUMBER: 111:144464
 TITLE: On the structure of solid calcium ammine-d3
 complex, (Ca(ND3)x, with x .apprxeq.
 6)
 AUTHOR(S): Press, W.; Damay, P.; Leclercq, F.; Chieux, P.
 CORPORATE SOURCE: Univ. Kiel, Kiel, 2300, Fed. Rep. Ger.
 SOURCE: J. Chem. Phys. (1989), 91(2), 1167-72
 CODEN: JCPSA6; ISSN: 0021-9606
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The bcc. structure of Ca(ND3)5.7 with a0 8.937 .ANG. at 6 K is stable
 down
 to He temps. The crystal is characterized by frozen-in orientational
 disorder and also positional disorder of the ND3 mols. The latter may be
 explained by a distribution of octahedrally coordinated and tetrahedrally
 coordinated Ca ions. The relation of occupation nos. with stoichiometry
 cannot be made quant., however. There are no indications of a
 significant
 departure from the geometry of a free ammonia mol. in the solid.
 CC 75-8 (Crystallography and Liquid Crystals)
 Section cross-reference(s): 78
 IT Ammines
 RL: PRP (Properties)
 (calcium, **labeled** with deuterium, structure of)
 IT 7664-41-7
 RL: PRP (Properties)
 (ammines, calcium, **labeled** with deuterium, structure of)

L41 ANSWER 26 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1989:449295 HCAPLUS
 DOCUMENT NUMBER: 111:49295
 TITLE: Transition metal coordination compounds with
 macrocyclic **ligands**. II. Syntheses and
 properties of europium(III) and **ytterbium**(
 III) acetylacetonate **porphyrin**
 coordination compounds
 AUTHOR(S): Hu, Cuie; Chen, Qiong; Ren, Jianguo; Qin, Zibin
 CORPORATE SOURCE: Wuhan Univ., Wuhan, Peop. Rep. China
 SOURCE: Wuhan Daxue Xuebao, Ziran Kexueban (1988), (3), 75-82
 CODEN: WTHPDI; ISSN: 0253-9888
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 AB Tetra(o-R-substituted-phenyl)porphyrins (I; R = NH2, NO2,
 pyridinylcarbonylamino) and LnL(acac) (H2L = I; Ln = Eu, Yb; Hacac =
 acetylacetone) were prepd. and characterized by IR, electronic,
 luminescence and 1H NMR spectra. The energy levels of the .pi.-MO for
 the
 conjugated system were calcd. by HMO and group theory methods.
 CC 78-7 (Inorganic Chemicals and Reactions)
 Section cross-reference(s): 28
 ST acetylacetonato europium ytterbium porphyrinato **complex**;
 electronic structure phenylporphyrin
 IT Ultraviolet and visible spectra
 (of europium and ytterbium acetylacetonato tetraphenylporphyrin
 complexes)
 IT Rare earth metals, compounds

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (porphyrin complexes, prepn. and spectra of)

IT **Porphyrins**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
 (rare earth metal complexes, prepn. and spectra of)

L41 ANSWER 27 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1988:197169 HCAPLUS
 DOCUMENT NUMBER: 108:197169
 TITLE: Synthesis and characterization of the
 complexes of neodymium(III)
), samarium(III) and gadolinium(III) chlorosulfates
 with some donor bases
 AUTHOR(S): Aftab, S.; Zaidi, A.; Rehan, S.; Zaidi, A.; Khan,
 Tabrez A.
 CORPORATE SOURCE: Dep. Chem., Aligarh Muslim Univ., Aligarh, 202 001,
 India
 SOURCE: Synth. React. Inorg. Met.-Org. Chem. (1987), 17(10),
 901-7
 CODEN: SRIMCN; ISSN: 0094-5714
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Ln(SO3Cl)3L2 (Ln = Nd, Sm or Gd; L = py, pyridine N-oxide, acridine,
 PPh3,
 OPPh3) and Ln(SO3Cl)3(bpy) (bpy = 2,2'-bipyrdine) were prepd. and
 characterized. The complexes do not dissoc. in formamide and the IR
 spectra indicate that the SO3Cl- group is bidentate. The bands obtained
 in reflectance spectra and the values of magnetic moments are consistent
 with 8-coordination of the metal ions.
 CC 78-7 (Inorganic Chemicals and Reactions)
 ST lanthanide chlorosulfato Lewis base; phosphine lanthanide chlorosulfato;
 bipyridine lanthanide chlorosulfato; **acridine** lanthanide
 chlorosulfato
 IT Ultraviolet and visible spectra
 (of neodymium and samarium chlorosulfato **complexes** with Lewis
 bases)
 IT Rare earth metals, compounds
 RL: RCT (Reactant)
 (**complexes**, chlorosulfato Lewis bases)

L41 ANSWER 28 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1987:42861 HCAPLUS
 DOCUMENT NUMBER: 106:42861
 TITLE: A **phthalocyanine complex** of
 neodymium(III) showing an unusual
 absorption spectrum
 AUTHOR(S): Kasuga, K.; Morimoto, H.
 CORPORATE SOURCE: Fac. Sci., Shimane Univ., Matsue, 690, Japan
 SOURCE: Inorg. Chim. Acta (1986), 119(1), L17-L18
 CODEN: ICHAA3; ISSN: 0020-1693
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB KNd(Pc)2 (H2Pc = phthalocyanine) or HNd (Pc)2 were refluxed in THF to
 give
 a new Nd(III) phthalocyanine complex with an unusual absorption spectrum
 at 650-750 .mu.m. Two strong bonds appear .apprx.700 .mu.m whose
 intensities are almost identical.

CC 78-7 (Inorganic Chemicals and Reactions)
 ST neodymium **phthalocyanine complex** visible absorption
 IT Ultraviolet and visible spectra
 (of neodymium **phthalocyanine complex**)
 IT **574-93-6DP, Phthalocyanine, neodymium complex**
 7440-00-8DP, **phthalocyanine complex**
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Préparation)
 (prepn. and electronic spectrum of)

L41 ANSWER 29 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1986:198770 HCAPLUS
 DOCUMENT NUMBER: 104:198770
 TITLE: The radical formation of diphthalocyanine
 complexes of lanthanum(III), **neodymium**
 (III) and yttrium(III) with p-benzoquinone
 AUTHOR(S): Kasuga, Kuninobu; Ando, Motonori; Morimoto, Hideharu
 CORPORATE SOURCE: Fac. Sci., Shimane Univ., Matsue, 690, Japan
 SOURCE: Inorg. Chim. Acta (1986), 112(1), 99-101
 CODEN: ICHAA3; ISSN: 0020-1693
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB PcNdPcH (PcH₂ = phthalocyanine) (.lambda. max = 345 and 636 nm), radical
 PcNdPc.bul. (324, 470 and 676 nm) and PcNdOAc (336 and 675 nm) were
 obtained from a crude Nd(III) phthalocyanine mixt. by column chromatog.
 on
 silica gel. The diphthalocyanine complexes of trivalent La, Nd, and Y
 were oxidized to the radical with p-benzoquinone and the reaction rate
 was
 increased with the decrease of an ionic radius, e.g. the rate was
 increased with the decrease of the distance of 2 macrocycles in the
 complex.

CC 78-7 (Inorganic Chemicals and Reactions)
 Section cross-reference(s): 67
 IT Kinetics of oxidation
 Oxidation
 (of rare earth **phthalocyanine complexes** by
 benzoquinone)
 IT 106-51-4, reactions
 RL: RCT (Reactant)
 (oxidn. by, of neodymium and yttrium **phthalocyanine**
 complexes)

L41 ANSWER 30 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1985:481025 HCAPLUS
 DOCUMENT NUMBER: 103:81025
 TITLE: Luminescence of **ytterbium(III)** in
 tetraligand **complexes** with fluorinated
 .beta.-diketones in the presence of **Rhodamine**
 B
 AUTHOR(S): Poluektov, N. S.; Korovin, Yu. V.; Meshkova, S. B.
 CORPORATE SOURCE: Fiz.-Khim. Inst., Odessa, USSR
 SOURCE: Ukr. Khim. Zh. (Russ. Ed.) (1985), 51(4), 399-401
 CODEN: UKZHAU; ISSN: 0041-6045
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Yb was detd. by measuring the luminescence of ion assoc.
 (Yb:diketone:dye)

ratio = 1:4:1) extd. into C6H6 from urotropin-buffered solns. (pH 5.6).
The calibration graphs at 980 nm were linear for 0.1-5.0 .mu.g Yb/mL.

The relative std. deviation was 0.009-0.084. The degree of extn. and partition coeffs. of the ion assocs. were also detd.

CC 79-6 (Inorganic Analytical Chemistry)
Section cross-reference(s): 68, 73

ST ytterbium detn extn luminescence; fluoro diketone reagent ytterbium;
Rhodamine B reagent ytterbium

IT Luminescence
(of ion assocs. of ytterbium fluorodiketonato **complexes**)

IT 7440-64-4, analysis
RL: ANT (Analyte); ANST (Analytical study)
(detn. of, by extn. and luminescence, fluorodiketones and **Rhodamine B** in)

IT 326-06-7D, ytterbium **complex**, ion assoc. with **Rhodamine B**
326-91-0D, ytterbium **complex**, ion assoc. with **Rhodamine B**
1522-22-1D, ytterbium **complex**, ion assoc. with **Rhodamine B**
7440-64-4D, fluorodiketonato **complexes**, ion assocs. with **Rhodamine B**
22767-90-4D, ytterbium **complex**, ion assoc. with **Rhodamine B**
64381-98-2D, ion assocs. with ytterbium fluorodiketonato **complexes**
77968-17-3D, ytterbium **complex**, ion assoc. with **Rhodamine B**
RL: PRP (Properties)
(extn. and luminescence of)

L41 ANSWER 31 OF 35 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1985:139739 HCAPLUS
DOCUMENT NUMBER: 102:139739
TITLE: Preparation and properties of single crystals of
hydrogen bis(phthalocyaninato)**neodymium**(
III)
AUTHOR(S): Sullivan, Brian W.; Dominey, Raymond N.; Helms,
Jeffrey H.; Schwartz, Michael; Ter Haar, Leonard W.;
Hatfield, William E.
CORPORATE SOURCE: Dep. Chem., Univ. North Carolina, Chapel Hill, NC,
27514, USA
SOURCE: Mol. Cryst. Liq. Cryst. (1985), 120(1-4), 433-6
CODEN: MCLCA5; ISSN: 0026-8941
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Single crystals of H bis(phthalocyaninato)neodymate(1-) were electrochem.
prepd. The crystals are semiconductors and follow Curie-Weiss behavior.

CC 72-4 (Electrochemistry)
Section cross-reference(s): 75, 76, 77

ST hydrogen bisphthalocyaninatoneodymate electroprepn property; neodymate
bisphthalocyaninato hydrogen electroprepn property; neodymium
phthalocyanine electroprepn property; elec cond neodymium
phthalocyanine complex; magnetic property neodymium
phthalocyanine complex

IT Electric conductivity and conduction
Magnetic susceptibility
(of neodymium **phthalocyanine complexes**)

IT Crystal growth
(electrochem., of neodymium **phthalocyanine complexes**
)

L41 ANSWER 32 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1985:139737 HCAPLUS
 DOCUMENT NUMBER: 102:139737
 TITLE: Preparation and properties of single crystals of
 hydrogen bis(phthalocyaninato)**neodymium**(
 III)
 AUTHOR(S): Sullivan, B. W.; Dominey, R. N.; Helms, J. H.;
 Schwartz, M.; Ter Haar, L. W.
 CORPORATE SOURCE: Dep. Chem., Univ. North Carolina, Chapel Hill, NC,
 USA
 SOURCE: Report (1984), TR-23; Order No. AD-A144933, 8 pp.
 Avail.: NTIS
 From: Gov. Rep. Announce. Index (U. S.) 1984, 84(25),
 59
 DOCUMENT TYPE: Report
 LANGUAGE: English
 AB Partially oxidized metallomacrocycles yield low-dimensional conducting
 materials. For example, NiPc1 (H2Pc = phthalocyanine) crystallizes with
 the formation of stacked, planar NiPc units and exhibits metal-like cond.
 parallel to the stacking direction. Lanthanide elements form
 sandwich-type compds. with phthalocyanine. The electrochem. prepn.,
 elec.
 cond., and magnetic behavior of single crystals of H
 bis(phthalocyaninato)neodymate(1-) are reported.
 CC 72-4 (Electrochemistry)
 Section cross-reference(s): 75, 76, 77
 ST hydrogen bisphthalocyaninatoneodymate electroprepn property; neodymate
 bisphthalocyaninato hydrogen electroprepn property; neodymium
 phthalocyanize electroprepn property; elec cond neodymium
phthalocyanine complex; magnetic property neodymium
phthalocyanine complex
 IT Electric conductivity and conduction
 Magnetic property and Magnetism
 (of neodymium phthalocyaninato **complexes**)
 IT Crystal growth
 (electrochem., of neodymium phthalocyaninato **complexes**)

L41 ANSWER 33 OF 35 HCAPLUS COPYRIGHT 2000 ACS
 ACCESSION NUMBER: 1984:464191 HCAPLUS
 DOCUMENT NUMBER: 101:64191
 TITLE: Effects of iodination on the electrical conductivity
 of hydrogenbis(phthalocyaninato)**neodymium**(
 III)
 AUTHOR(S): Ter Haar, L. W.; Hatfield, W. E.; Tsutsui, M.
 CORPORATE SOURCE: Dep. Chem., Univ. North Carolina, Chapel Hill, NC,
 USA
 SOURCE: Report (1984), TR-22; Order No. AD-A137561, 13 pp.
 Avail.: NTIS
 From: Gov. Rep. Announce. Index (U. S.) 1984, 84(10),
 69
 DOCUMENT TYPE: Report
 LANGUAGE: English
 AB Iodination of metallomacrocycles is an effective synthetic approach to
 low-dimensional conducting materials consisting of partially oxidized
 mol.
 stacks. The weakness of this approach is that there is little synthetic

control over the small differences in mol. and lattice forces which control the formation of stacks. An improvement to this approach was provided by the 'face-to-face' orientation of macrocycles found in the (M(Pc)O) n materials. A similar orientational effect exists in the linear chain compd. composed of stacked hydrogenbis(phthalocyaninato)neodymium(II) I) sandwich mols.

CC 76-1 (Electric Phenomena)
Section cross-reference(s): 78

ST hydrogen phthalocyaninatoniobium iodination cond; niobium **phthalocyanine complex** elec cond

IT Electric conductivity and conduction
(of hydrogenbis(phthalocyaninato)**neodymium(III)**, effect of iodination on)

IT Iodination
(of hydrogenbis(phthalocyaninato)**neodymium(III)**, elec. cond. in relation to)

L41 ANSWER 34 OF 35 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1976:67103 HCAPLUS
DOCUMENT NUMBER: 84:67103
TITLE: Means for deactivating the excited state of ytterbium ion in ytterbium **porphyrin complexes**
AUTHOR(S): Tsvirko, M. P.; Kachura, T. F.
CORPORATE SOURCE: USSR
SOURCE: Zh. Prikl. Spektrosk. (1975), 23(5), 907-9
CODEN: ZPSBAX
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The luminescence lifetime of Yb complexes of tetrabenzoporphyrin and etioporphyrin in which the Yb ion is bounded to acetylacetone or Cl were detd. in C6H6 or CS2 at 293 and 77.degree.K. The main role in the radiationless deactivation of Yb is played by the high frequency intramol. C-H vibrations in the vicinity of Yb. The possibility of an increase of the fluorescence yield in metal complexes is pointed out.

CC 73-3 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)

ST ytterbium **porphyrin** excitation deactivation; fluorescence
ytterbium **porphyrin**

IT Energy level transition
(lifetime, of ytterbium **porphyrin complexes**)

IT Fluorescence
(of ytterbium **porphyrin complexes**, ytterbium ion excited state deactivation in)

IT 18923-27-8, properties
RL: PRP (Properties)
(excited state deactivation of, in ytterbium **porphyrin complexes**)

L41 ANSWER 35 OF 35 HCAPLUS COPYRIGHT 2000 ACS
ACCESSION NUMBER: 1975:402898 HCAPLUS
DOCUMENT NUMBER: 83:2898
TITLE: Lanthanide **porphyrin** probes of heme proteins. Insertion of **ytterbium(III)** mesoporphyrin IX into apomyoglobin

AUTHOR(S): Horrocks, William DeW., Jr.; Venteicher, Robert F.;
Spilburg, Curtis A.; Vallee, Bert L.
CORPORATE SOURCE: Dep. Biol. Chem., Harvard Med. Sch., Boston, Mass.,
USA
SOURCE: Biochem. Biophys. Res. Commun. (1975), 64(1), 317-22
CODEN: BBRC A9
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Apomyoglobin was reconstituted with the lanthanide porphyrin complex,
Yb(III) mesoporphyrin IX. The reconstituted material exhibited
absorption
and magnetic circular dichroic spectra significantly different from those
of the Yb porphyrin itself. The sizeable, pos. extrinsic Cotton effect
in
the Soret band of Yb mesoporphyrin IX induced by the interactions with
the
globin indicates that the lanthanide porphyrin complex occupies the heme
crevice.

CC 6-3 (General Biochemistry)

IT 21H,23H-Porphine-2,18-dipropanoic acid,
7,12-diethyl-3,8,13,17-tetramethyl-

, ytterbium **complex**, apomyoglobin **complex**
Ytterbium(1+), [7,12-diethyl-3,8,13,17-tetramethyl-21H,23H-porphine-2,18-
dipropanoato(2-)-N21,N22,N23,N24]-, apomyoglobin **complex**,
(SP-4-2)-

RL: PRP (Properties)
(CD and visible spectra of)

=> fil wpids

FILE 'WPIDS' ENTERED AT 13:59:21 ON 26 OCT 2000
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L1 278 S (ERBIUM OR YTTERBIUM OR NEODYMIUM) (W) III OR ER3 OR YB3
OR
L2 293 S ND3# OR ER3# OR YB3#
L3 303 S L1 OR L2
L4 4804 S ANALYTE#
L5 1 S L3 AND L4
L6 23581 S IMMUNOASSAY? OR ASSAY?
L7 0 S L3 AND L6
L8 3 S L3 AND ANTIBOD?
L9 12 S DIAGNOS? AND L3
L10 40108 S LABEL?
L11 2 S L3 AND L10
L12 21292 S FLUORESCCEIN# OR TRIPHENYLMETHANE OR PORPHYRIN# OR
RHODAMIN?
L13 6 S L3 AND L12
L14 81 S PYRIDINE DICARBOXYLIC ACID
L15 86 S POLYAMINOCARBOXYLIC ACID
L16 0 S L3 AND (L14 OR L15)
L17 9 S L5 OR L8 OR L11 OR L13
L18 345 S HID
L19 16 S L3 (L) LIGAND? (L) COMPLEX?
L20 14 S L19 NOT L17
L21 12 S L3 (S) LIGAND? (S) COMPLEX?
L22 12 S L3 AND L21
L23 10 S L22 NOT L17
L24 5 S L3 (5A) LIGAND? (5A) COMPLEX?
L25 4 S L24 NOT L17

FILE 'WPIDS' ENTERED AT 13:59:21 ON 26 OCT 2000

=> d .wp 117 1-9;d .wp 125 1-4

L17 ANSWER 1 OF 9 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

AN 1998-496001 [42] WPIDS

DNN N1998-387364 DNC C1998-149516

TI Detection of **analytes** in test samples - using diagnostic
neodymium(III), **ytterbium(III)** or
erbium(III) ion-ligand complexes.

DC B04 D16 J04 S03

IN HOFSTRAAT, J W

PA (ALKU) AKZO NOBEL NV

CYC 82

PI WO 9839654 A1 19980911 (199842)* EN 27p

RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA
PT SD SE SZ UG ZW

W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE
GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG
MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG
US UZ VN YU ZW

AU 9868284 A 19980922 (199908)

EP 968424 A1 20000105 (200006) EN

R: AT BE CH DE DK ES FI FR GB IE IT LI NL

ADT WO 9839654 A1 WO 1998-EP1287 19980228; AU 9868284 A AU 1998-68284
19980228; EP 968424 A1 EP 1998-913667 19980228, WO 1998-EP1287 19980228

FDT AU 9868284 A Based on WO 9839654; EP 968424 A1 Based on WO 9839654

PRAI US 1997-42354 19970324; EP 1997-200615 19970303

AB WO 9839654 A UPAB: 19981021

Detection of an **analyte** in a test sample comprises a specific
binding reaction between the **analyte**, a specific binding partner
for the **analyte** and an immuno-reactant or a reactant provided
with a **label**. The **label** is a lanthanide ion-ligand
complex. The lanthanide ion is **Nd³⁺**, **Yb³⁺** or
Er³⁺. The ligand comprises, or is in contact with, a sensitising
moiety which absorbs in the 400-1,000 (especially 400-800) nm region.

Also claimed is a kit for detection of an **analyte** in a test
sample, comprising:

(a) a specific binding partner for the **analyte**, and

(b) an immuno-reactant or a reactant provided with a **label**.

The **label** is as described above. The specific binding partner
and the **labelled** immuno-reactant are optionally attached to a
carrier.

USE - The process may be used for detection of **analytes** in
test samples, e.g. body fluids or tissues of animal, bacterial or
vegetable origin. It may be used for detection of **analytes** such
as antigens, **antibodies**, (glyco)proteins, peptides,
oligonucleotides, nucleic acids, enzymes, haptens or polysaccharides.

ADVANTAGE - The lanthanide ion complexes make use of inexpensive
400-1000 nm lasers or other light sources, emit luminescence in the
near-IR spectrum, have long luminescence lifetimes, high sensitivity, and
good stability with respect to the irradiated light and towards the
solvents used, especially towards aqueous solutions.
Dwg.0/0

L17 ANSWER 2 OF 9 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

AN 1995-036382 [05] WPIDS

CR 1990-209333 [27]; 1991-222669 [30]; 1992-398125 [48]; 1993-243122 [30];
 1993-350777 [44]; 1993-413431 [51]; 1995-014192 [02]; 1995-161581 [21];
 1995-293070 [38]; 1996-200644 [19]; 1996-392036 [29]; 1996-476350 [47];
 1997-033521 [03]; 1997-034297 [03]; 1997-042349 [04]; 1997-076305 [06];
 1997-098934 [08]; 1997-107527 [10]; 1997-118340 [11]; 1997-131750 [12];
 1997-257695 [22]; 1997-297402 [27]; 1997-309322 [27]; 1998-321643 [28];
 1998-347306 [30]; 1998-494839 [42]; 1999-023544 [02]; 1999-243267 [20];
 1999-590443 [50]; 2000-399187 [33]; 2000-411207 [34]

DNC C1995-016316

TI Texaphyrin metal complex mediated ester hydrolysis - esp. useful for
 targeted intracellular hydrolysis of mRNA and for inhibiting gene
 expression.

DC B02 B04 D16

IN DOW, W C; HEMMI, G W; IVERSON, B; KRAL, V A; MAGDA, D; MILLER, R A; MODY,
 T; ROSS, K L; SESSLER, J L; SMITH, D A; WRIGHT, M; KR, L V A

PA (PHAR-N) PHARMACYCLICS INC; (TEXA) UNIV TEXAS SYSTEM; (TEXA) UNIV TEXAS

CYC 54

PI WO 9429316 A2 19941222 (199505)* EN 125p
 RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
 W: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB GE HU JP KG KP KR KZ
 LK LU LV MD MG MN MW NL NO NZ PL PT RO RU SD SE SI SK TJ TT UA US
 UZ VN
 AU 9470526 A 19950103 (199521)
 WO 9429316 A3 19950202 (199611)
 EP 702685 A1 19960327 (199617) EN
 R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
 US 5559207 A 19960924 (199644) 45p
 JP 08511532 W 19961203 (199710) 110p
 NZ 267864 A 19971024 (199749)
 AU 694737 B 19980730 (199842)

ADT WO 9429316 A2 WO 1994-US6284 19940609; AU 9470526 A AU 1994-70526
 19940609; EP 702685 A1 EP 1994-919354 19940609, WO 1994-US6284 19940609;
 US 5559207 A Div ex US 1989-320293 19890306, CIP of WO 1990-US1208
 19900306, CIP of US 1990-539975 19900618, CIP of US 1991-771393 19910930,
 CIP of US 1992-822964 19920121, CIP of US 1993-75123 19930609, US
 1994-227370 19940414; JP 08511532 W WO 1994-US6284 19940609, JP
 1995-501981 19940609; NZ 267864 A NZ 1994-267864 19940609, WO 1994-US6284
 19940609; AU 694737 B AU 1994-70526 19940609

FDT AU 9470526 A Based on WO 9429316; EP 702685 A1 Based on WO 9429316; US
 5559207 A Div ex US 4935498, CIP of US 5162509, CIP of US 5252720; JP
 08511532 W Based on WO 9429316; NZ 267864 A Based on WO 9429316; AU
 694737
 B Previous Publ. AU 9470526, Based on WO 9429316

PRAI US 1994-227370 19940414; US 1993-75123 19930609; US 1989-320293
 19890306; WO 1990-US1208 19900306; US 1990-539975 19900618; US
 1991-771393 19910930; US 1992-822964 19920121

AB WO 9429316 A UPAB: 20000725
 Method of phosphate ester hydrolysis comprises incubating an aq.
 phosphate
 ester soln. with a texaphyrin metal complex having catalytic activity for
 ester bond hydrolysis. The texaphyrin metal complex is pref. of formula
 (I), where M = a divalent or trivalent metal cation catalysing ester bond
 hydrolysis in aq. soln.; R1-R6 each = H, OH, alkyl, hydroxyalkyl, alkoxy,
 hydroxyalkyl, saccharide, carboxyalkyl, carboxamide alkyl, a
 site-directed molecule, a catalytic gp., or a couple to a site-directed
 molecule or to a catalytic gp.; and Z at most 2. Also new are (I) in
 which: M = Ca²⁺, Mn²⁺, Co²⁺, Ni²⁺, Zn²⁺, Cd²⁺, Hg²⁺, Fe²⁺, Sm²⁺ or UO²⁺

Mn3+, Co3+, Ni3+, Fe3+, Ho3+, Ce3+, Y3+, In3+, Pr3+, N3+, Sm3+, Eu3+, Gd3+, Tb3+, Dy3+, **Er3+**, Tm3+, **Yb3+**, Lu3+, La3+ or U3+;
 R1-R6 = as defined above with at least one being a site-directed molecule,
 a catalytic gp., or a couple to a site-directed molecule or to a catalytic gp.; and Z at most 2.
 USE - (I) provide stable chelation for otherwise toxic metallic cation, specificity for targeted sites in a therapeutic applicn. and nontoxicity for in vivo use. (I) are esp. useful for targeted intracellular mRNA hydrolysis and for inhibiting the expression of a gene.
 (I) are also useful for **antibody** conjugate-based treatment. Lanthanide texaphyrins may be developed into synthetic specific phospholipases which may be used to digest cell membrane components such as phosphatidyl choline and sphingomyelin, the latter participating in nerve and brain functions. Reagents that specifically hydrolyze ATP, ADP, NADH or FADH2 may be developed and used to disrupt the flow of free energy in a cell, to kill unwanted plants or animals, or to treat mammalian cancers. Other applicns. include treatment of liver disease by effecting hydrolysis of uridine diphosphate glucose, the phosphodiester precursor to glycogen; as hormone regulation drugs; and as hydrolysis reagents for the detoxification of di- and tri-alkyl phosphate esters, including solvents, insecticides and chemical nerve gases.
 Dwg.0/22

L17 ANSWER 3 OF 9 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 AN 1995-014192 [02] WPIDS
 CR 1990-209333 [27]; 1991-222669 [30]; 1992-398125 [48]; 1993-243122 [30]; 1993-350777 [44]; 1993-413431 [51]; 1995-036382 [05]; 1995-161581 [21]; 1995-293070 [38]; 1996-200644 [19]; 1996-392036 [29]; 1996-476350 [47]; 1997-033521 [03]; 1997-034297 [03]; 1997-042349 [04]; 1997-076305 [06]; 1997-098934 [08]; 1997-107527 [10]; 1997-118340 [11]; 1997-131750 [12]; 1997-257695 [22]; 1997-297402 [27]; 1997-309322 [27]; 1998-321643 [28]; 1998-347306 [30]; 1998-494839 [42]; 1999-023544 [02]; 1999-243267 [20]; 1999-590443 [50]
 DNC C1995-006425
 TI New expanded **porphyrin** metal complexes - useful for inactivation of viruses or destruction of tumours.
 DC B02
 IN HEMMI, G W; MURAI, T; SESSLER, J L
 PA (TEXA) UNIV TEXAS SYSTEM
 CYC 1
 PI US 5369101 A 19941129 (199502)* 70p
 ADT US 5369101 A Div ex US 1989-320293 19890306, Div ex US 1990-539975 19900618, Div ex US 1992-880131 19920507, US 1993-168668 19931216
 FDT US 5369101 A Div ex US 4935498, Div ex US 5162509, Div ex US 5272142
 PRAI US 1989-320293 19890306; US 1990-539975 19900618; US 1992-880131 19920507; US 1993-168668 19931216
 AB US 5369101 A UPAB: 20000118
 Metal cpds. of formula (I) are new. M = H, Mn3+, Co3+, Fe3+, Ho3+, Ce3+, Y3+, In3+, In3+, Pr3+, **Nd3+**, Sn3+, En3+, Gd3+, Tb3+, Dy3+, **Er3+**, **Yb3+**, Ln3+, La3+, Ca2+, Mn2+, Co2+, Ni2+, Zn2+, Hg2+, Sm2+ or UO22+; n at most 2; R1, R2, R3 = H, alkyl, carboxy or carboxyalkyl, provided that the mol. wt. of any one of R1, R2 or R3 is at

most 1000 Daltons, and at least one of R1, R2 and R3 is carboxy or carboxyalkyl.

USE - (I) are effective photosensitisers for generation of singlet oxygen and are thus useful for inactivation or destruction of tumours, and for removal of HIV-1 (and other viral contaminants) from blood.

ADVANTAGE - The complexes have high chemical stability and appreciable solubility in polar media.
Dwg.0/31

L17 ANSWER 4 OF 9 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1994-221917 [27] WPIDS
DNN N1994-175090 DNC C1994-101518
TI Rare earth complex of chiral **phthalocyanine** deriv - has high sec and tert nonlinear optical sensitivity, useful for nonlinear optical element.
DC E12 L03 P81 V07
PA (TOHO) UNIV TOHOKU
CYC 1
PI JP 06157535 A 19940603 (199427)* 7p
JP 07074309 B2 19950809 (199536) 7p
ADT JP 06157535 A JP 1992-320647 19921130; JP 07074309 B2 JP 1992-320647 19921130
FDT JP 07074309 B2 Based on JP 06157535
PRAI JP 1992-320647 19921130
AB JP 06157535 A UPAB: 19950824
The complex has a molecular symmetry such that two low symmetric subst. phthalocyaninate ions having an effective symmetry number of less than 2 are coordinated, with rare earth (III) ion sandwiched between them.
The complex is a bis(dibenzophthalocyaninate) rare earth (III) complex.
Pref. rare earth (III) ions are lutetium (III) ion, **ytterbium** (III) ion and samarium (III) ion and most pref. is lutetium (III) ion.
The complex is prepd. by forming a magnesium (II) complex of synthesised subst. **phthalocyanine**, sepg. and purifying solid **phthalocyanine**-magnesium (II) complex by chromatography, etc. eliminating magnesium (II) ion from the sepd. and purified complex to produce a subst. phthalocyaninate ion, converting it to dilithium salt in organic solvent and reacting it with rare earth (III) ion.
The complex is divided into optical isomers.
ADVANTAGE - The chiral rare earth complex of **phthalocyanine** deriv. has high sec. and tert. non-linear optical sensitivity and is useful as material for non-linear optical element.
Dwg.4/6

L17 ANSWER 5 OF 9 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1993-243122 [30] WPIDS
CR 1990-209333 [27]; 1991-222669 [30]; 1992-398125 [48]; 1993-350777 [44]; 1993-413431 [51]; 1995-014192 [02]; 1995-036382 [05]; 1995-161581 [21]; 1995-293070 [38]; 1996-200644 [19]; 1996-392036 [29]; 1996-476350 [47]; 1997-033521 [03]; 1997-034297 [03]; 1997-042349 [04]; 1997-076305 [06]; 1997-098934 [08]; 1997-107527 [10]; 1997-118340 [11]; 1997-131750 [12]; 1997-257695 [22]; 1997-297402 [27]; 1997-309322 [27]; 1998-321643 [28]; 1998-347306 [30]; 1998-494839 [42]; 1999-023544 [02]; 1999-243267 [20]; 1999-590443 [50]; 2000-399187 [33]; 2000-411207 [34]

DNN N1993-187040 DNC C1993-108344
 TI New water-soluble texaphyrin metal complex - used as photosensitiser for singlet oxygen prodn., e.g. for destroying viruses or tumours, or in magnetic resonance imaging.
 DC B02 B04 P34
 IN HEMMI, G W; SESSLER, J L; TOSHIKI, M; MODY, T D; MURAI, T
 PA (TEXA) UNIV TEXAS SYSTEM
 CYC 40
 PI WO 9314093 A1 19930722 (199330)* EN 160p
 RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL OA PT SE
 W: AT AU BB BG BR CA CH DE DK ES FI GB HU JP KP KR LK LU MG MN MW NL
 NO NZ PL PT RO RU SD SE UA
 US 5252720 A 19931012 (199342) 59p
 AU 9334367 A 19930803 (199348)
 US 5292414 A 19940308 (199410)# 63p
 FI 9403445 A 19940720 (199437)
 EP 623134 A1 19941109 (199443) EN
 R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
 NO 9402719 A 19940919 (199443)
 JP 07503009 W 19950330 (199521)
 US 5432171 A 19950711 (199533) 568p
 US 5439570 A 19950808 (199537) 57p
 US 5451576 A 19950919 (199543) 57p
 US 5475104 A 19951212 (199604) 58p
 AU 664877 B 19951207 (199605)
 NZ 246795 A 19960227 (199614)
 US 5504205 A 19960402 (199619) 56p
 US 5569759 A 19961029 (199649) 28p
 US 5587463 A 19961224 (199706)# 65p
 NO 301828 B1 19971215 (199806)
 US 5733903 A 19980331 (199820) 54p
 US 5994535 A 19991130 (200003)
 ADT WO 9314093 A1 WO 1993-US107 19930107; US 5252720 A Div ex US 1989-320293 19890306, CIP of US 1990-539975 19900618, CIP of US 1991-771393 19910930, US 1992-822964 19920121; AU 9334367 A AU 1993-34367 19930107, WO 1993-US107 19930107; US 5292414 A Div ex US 1989-320293 19890306, CIP of US 1990-539975 19900618, Div ex US 1991-771393 19910930, US 1992-871357 19920420; FI 9403445 A WO 1993-US107 19930107, FI 1994-3445 19940720; EP 623134 A1 EP 1993-902982 19930107, WO 1993-US107 19930107; NO 9402719 A
 WO 1993-US107 19930107, NO 1994-2719 19940720; JP 07503009 W JP 1993-512562 19930107, WO 1993-US107 19930107; US 5432171 A Div ex US 1989-320293 19890306, CIP of US 1990-539975 19900618, CIP of US 1991-771393 19910930, Div ex US 1992-822964 19920121, US 1993-100093 19930728; US 5439570 A Div ex US 1989-320293 19890306, CIP of US 1990-539975 19900618, CIP of US 1991-771393 19910930, Div ex US 1992-822964 19920121, US 1993-112871 19930825; US 5451576 A Div ex US 1989-320293 19890306, Div ex WO 1990-US1208 19900306, CIP of US 1990-539975 19900618, CIP of US 1991-771393 19910930, Div ex US 1992-822964 19920121, US 1993-112872 19930825; US 5475104 A Div ex US 1989-320293 19890306, CIP of US 1990-539975 19900618, CIP of US 1991-771393 19910930, Div ex US 1992-822964 19920121, US 1993-112786 19930825; AU 664877 B AU 1993-34367 19930107; NZ 246795 A NZ 1993-246795 19930107; US 5504205 A Div ex US 1989-320293 19890306, CIP of WO 1990-US1208 19900306, CIP of US 1990-539975 19900618, CIP of US 1991-771393 19910930, Div ex US 1992-822964 19920121, Cont of US 1993-98514 19930728, US 1994-280351 19940726; US 5569759 A Div ex US 1989-320293 19890306, CIP of US

1990-539975 19900618, CIP of US 1991-771393 19910930, Div ex US
 1992-822964 19920121, US 1993-98514 19930728; US 5587463 A Div ex US
 1989-320293 19890306, Div ex WO 1990-US1208 19900306, CIP of US
 1990-539975 19900618, Div ex US 1991-771393 19910930, Div ex US
 1992-871357 19920420, US 1994-207845 19940308; NO 301828 B1 WO 1993-US107
 19930107, NO 1994-2719 19940720; US 5733903 A Div ex US 1992-822964
 19920121, Cont of US 1993-98514 19930728, US 1996-679162 19960710; US
 5994535 A CIP of US 1989-320293 19890306, Div ex US 1992-822964 19920121,
 Cont of US 1993-98514 19930728, Cont of US 1996-679162 19960710, US
 1998-31239 19980226

FDT US 5252720 A Div ex US 4935498, CIP of US 5162509; AU 9334367 A Based on
 WO 9314093; US 5292414 A Div ex US 4935498, CIP of US 5162509; EP 623134
 A1 Based on WO 9314093; JP 07503009 W Based on WO 9314093; US 5432171 A
 Div ex US 4935498, CIP of US 5162509, Div ex US 5252720; US 5439570 A Div
 ex US 4935498, CIP of US 5162509, Div ex US 5282720; US 5451576 A Div ex
 US 4935498, CIP of US 5162509, Div ex US 5252720; US 5475104 A Div ex US
 4935498, CIP of US 5162509, Div ex US 5252720; AU 664877 B Previous Publ.
 AU 9334367, Based on WO 9314093; US 5504205 A Div ex US 4935498, CIP of

US 5162509, Div ex US 5252720; US 5569759 A Div ex US 4935498, CIP of US
 5162509, Div ex US 5252720; US 5587463 A Div ex US 4935498, CIP of US
 5162509, Div ex US 5292414; NO 301828 B1 Previous Publ. NO 9402719; US
 5733903 A Div ex US 5252720, Cont of US 5569759; US 5994535 A CIP of US
 4935498, Div ex US 5252720, Cont of US 5569759, Cont of US 5733903

PRAI US 1992-822964 19920121; US 1989-320293 19890306; US 1990-539975
 19900618; US 1991-771393 19910930; US 1992-871357 19920420; US
 1993-100093 19930728; US 1993-112871 19930825; WO 1990-US1208
 19900306; US 1993-112872 19930825; US 1993-112786 19930825; US
 1993-98514 19930728; US 1994-280351 19940726; US 1994-207845
 19940308; US 1996-679162 19960710; US 1998-31239 19980226

AB WO 9314093 A UPAB: 20000725
 Prepn. of an aromatic pentadentate expanded **porphyrin** analogue
 metal complex (I) having at least one OH substit. comprises: (i) mixing a
 non-aromatic pentadentate expanded **porphyrin** analogue (II)
 having at least one OH substit., a trivalent metal salt, a Bronsted base
 and an oxidant in an organic solvent; and (ii) stirring at ambient temp.
 or heating at reflux for at least 2 hrs.
 Water-soluble texaphyrin and metal complexes of formula (I'),
 retaining lipophilicity, are new. Where, M = H or di- or trivalent metal
 cation; R1-R5 = H, OH, CnH2n+1Oy, OCnH2n+1Oy, alkyl, hydroxyalkyl,
 oxyalkyl, oxyhydroxyalkyl, carboxyalkyl or carboxyamidoalkyl; at least
 one of R1-R5 has at least one OH substit.; R1-R5 each have mol. wt. not more
 than 1000 daltons; N = -20 to +2; n = 0 or integer; and y = 0 or integer
 up to 2n+1.
 USE/ADVANTAGE - The following methods using water-soluble (I) which
 retain lipophilicity are claimed: (i) for deactivating retroviruses and
 enveloped viruses in aq. fluids, by adding (I) and exposing the mixt. to
 light to effect the formation of singlet oxygen; (ii) for light-induced
 singlet oxygen prodn. using (I) having intrinsic biolocalisation
 selectivity; (iii) enhancement of relaxivity using (I) contg. a
 paramagnetic metal; (iv) treatment of a host harbouring atheroma or
 benign or malignant tumour cells, etc.
 Dwg.0/19

AN 1991-068399 [10] WPIDS
DNN N1991-052782 DNC C1991-028961
TI Detection of fluorescence **labelled** DNA - using photodetection of two photons absorption fluorescence with a mode synchronous dye laser as light source.
DC B04 D16 J04 S03 S05
PA (HITA) HITACHI LTD
CYC 1
PI JP 03015746 A 19910124 (199110)*
ADT JP 03015746 A JP 1988-114633 19880513
PRAI JP 1988-114633 19880513
AB JP 03015746 A UPAB: 19930928
Sepn. and determ. of fluorescence **labelled** DNA fraction are carried out by photo detection of two photons absorption fluorescence.
The light source is a mode synchronous dye laser. The fluorescence signals are detected synchronously by the mode synchronous dye laser using a chopper. The **labelling** fluorescent material is a deriv. of **rhodamine**, alpha-naththylamine, or azulene. The laser is infrared laser such as **Nd3+**:YAG laser, semiconductor laser, etc.
USE/ADVANTAGE - Used as the appts. for base sequence determ. of DNA or detection of fluorescence **labelled** DNA. It can be used for the detection of gene by fluorescence DNA probe. The sensitivity of the detection is high, because the noises from gel emission and excited light scattering are removed by this method. The signal intensity is risen by the increase of two photons absorption efficiency.
0/0

L17 ANSWER 7 OF 9 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1990-209333 [27] WPIDS
CR 1991-222669 [30]; 1992-398125 [48]; 1993-243122 [30]; 1993-350777 [44]; 1993-413431 [51]; 1995-014192 [02]; 1995-036382 [05]; 1995-161581 [21]; 1995-293070 [38]; 1996-200644 [19]; 1996-392036 [29]; 1996-476350 [47]; 1997-033521 [03]; 1997-034297 [03]; 1997-042349 [04]; 1997-076305 [06]; 1997-098934 [08]; 1997-107527 [10]; 1997-118340 [11]; 1997-131750 [12]; 1997-257695 [22]; 1997-297402 [27]; 1997-309322 [27]; 1998-321643 [28]; 1998-347306 [30]; 1998-494839 [42]; 1999-023544 [02]; 1999-243267 [20]; 1999-590443 [50]
DNC C1990-090456
TI New tri pyrrole di methine-derived expanded **porphyrin(s)** - used for prophylactic treatment and removal of HIV-1 and other viral contaminants from blood.
DC B02 P34
IN HEMMI, G W; MURAI, T; SESSLER, J L
PA (TEXA) UNIV TEXAS SYSTEM
CYC 33
PI US 4935498 A 19900619 (199027)*
WO 9010633 A 19900920 (199040)
RW: AT BE CH DE DK ES FR GB IT LU NL OA SE
W: AT AU BB BG BR CA CH DE DK FI GB HU JP KP KR LK LU MC MG MW NL NO
RO SD SE SU US
AU 9052781 A 19901009 (199102)
EP 462206 A 19911227 (199201)
R: AT BE CH DE ES FR GB IT LI LU NL SE
JP 04505612 W 19921001 (199246) 60p
EP 462206 B1 19980729 (199834) EN 58p

R: AT BE CH DE DK ES FR GB IT LI LU NL SE
 DE 69032525 E 19980903 (199841)
 ES 2119745 T3 19981016 (199849)
 ADT US 4935498 A US 1989-320293 19890306; EP 462206 A EP 1990-905072
 19900306;
 JP 04505612 W JP 1990-505053 19900306, WO 1990-US1208 19900306; EP 462206
 B1 EP 1990-905072 19900306, WO 1990-US1208 19900306; DE 69032525 E DE
 1990-632525 19900306, EP 1990-905072 19900306, WO 1990-US1208 19900306;
 ES
 2119745 T3 EP 1990-905072 19900306
 FDT JP 04505612 W Based on WO 9010633; EP 462206 B1 Based on WO 9010633; DE
 69032525 E Based on EP 462206, Based on WO 9010633; ES 2119745 T3 Based
 on
 EP 462206
 PRAI US 1989-320293 19890306
 AB US 4935498 A UPAB: 20000118
 Tripyrrole dimethine-derived ''expanded porphyrions'' of formula (I) are
 new, (where R, R1 = CH3, H or COH3; M = trivalent metal ion; n = 2).
 Specifically, M = Mn3+, Co3+, Mn3+(Sic, Ni3+, Y3+, In3+, Pr3+, Nd3
 + Sm3+, Eu3+, Gd3+, Tb3+, Dy3+, Er3+, Tm3+, Yb3+,
 U3+; one of R and R1 = CH3.
 USE/ADVANTAGE - (I) are photosensitisers for the generation of
 singlet oxygen and thus potentially used for the inactivation or
 destruction of tumours as well as for the prophylactic treatment and
 removal of HIV-1 and other vital contaminants from the blood. (I) have
 unusual water solubility and stability. (I) have optical properties,
 e.g.
 they absorb light strongly in a physiologically important region (i.e.
 690-880 nm). @ (58pp Dwg.No.0/31)

L17 ANSWER 8 OF 9 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 AN 1989-371636 [51] WPIDS
 DNN N1989-282898 DNC C1989-164546
 TI Visualising tumours with monoclonal **antibody** - providing higher
antibody concn. on target cells, esp. for nuclear spin tomography.
 DC B04 D16 P31
 IN CONRAD, J; SPECK, U
 PA (SCHD) SCHERING AG; (SCHD) SCHERING BERLIN & BERGKAMEN AG
 CYC 13
 PI DE 3820452 A 19891214 (198951)* 9p
 WO 8912465 A 19891228 (199003) DE
 RW: AT BE CH DE FR GB IT LU NL SE
 W: JP US
 EP 420880 A 19910410 (199115)
 R: AT BE CH DE FR GB IT LI LU NL SE
 JP 03505871 W 19911219 (199206)
 EP 420880 B1 19930526 (199321) DE 15p
 R: AT BE CH DE FR GB IT LI LU NL SE
 DE 58904518 G 19930701 (199327)
 ADT DE 3820452 A DE 1988-3820452 19880613; WO 8912465 A WO 1989-DE393
 19890613; EP 420880 A EP 1989-906726 19890613; JP 03505871 W JP
 1989-506506 19890613; EP 420880 B1 EP 1989-906726 19890613, WO 1989-DE393
 19890613; DE 58904518 G DE 1989-504518 19890613, EP 1989-906726 19890613,
 WO 1989-DE393 19890613
 FDT EP 420880 B1 Based on WO 8912465; DE 58904518 G Based on EP 420880, Based
 on WO 8912465
 PRAI DE 1988-3820452 19880613

AB DE 3820452 A UPAB: 19930923
Pictorial representation of tumours uses monoclonal **antibodies** (MAB) which have no defined bonding specificity w.r.t. tumour-associated antigens.

MAB are of murine or human origin, and can be used in the form of
(1) fragments; (2) metal complexes; (3) iodinated derivs. or (4) conjugates (via NH₂, SH, COOH or CHO gps.) to avidin.

USE/ADVANTAGE - MAB can be used regardless of the immunological properties of the tumour. The uptake by tumour cells does not depend on the presence of a limited no. of specific antigens, so that higher MAB concns. are achieved, and many different MAB (selected for purity, stability, compatibility and immunogenicity) are available. MAB are esp. useful in nuclear spin tomography but can also be used in radiodiagnosis or X-ray diagnosis.

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L17 ANSWER 9 OF 9 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
AN 1986-318741 [48] WPIDS
CR 1990-029652 [04]; 1991-101829 [14]
DNN N1986-237962 DNC C1986-138038
TI Hepatobiliary contrast of human organs - with capability of binding covalently and non-immunologically to biological target tissue, contain complexed paramagnetic metal.
DC B04 J04 P31
IN BRADY, T J; LAUFFER, R B
PA (GEHO) GEN HOSPITAL CORP
CYC 15
PI WO 8606605 A 19861120 (198648)* EN 30p
RW: AT BE CH DE FR GB IT LU NL SE
W: JP
EP 222886 A 19870527 (198721) EN
R: AT BE CH DE FR GB IT LI LU NL SE
JP 62503034 W 19871203 (198803)
CA 1264663 A 19900123 (199008)
US 4899755 A 19900213 (199013)
JP 08019005 B2 19960228 (199613) 13p
EP 722739 A1 19960724 (199634) EN 13p
R: AT BE CH DE FR GB IT LI LU NL SE
EP 222886 B1 19960925 (199643) EN 24p
R: AT BE CH DE FR GB IT LI LU NL SE
DE 3650572 G 19961031 (199649)
SG 43886 A1 19971114 (199803)
JP 10152447 A 19980609 (199833) 14p
ADT WO 8606605 A WO 1986-US1035 19860508; EP 222886 A EP 1986-903806 19860508;
JP 62503034 W JP 1986-503050 19860508; US 4899755 A US 1985-731841 19850508; JP 08019005 B2 JP 1986-503050 19860508, WO 1986-US1035 19860508;
EP 722739 A1 Div ex EP 1986-903806 19860508, EP 1995-120005 19860508; EP 222886 B1 EP 1986-903806 19860508, WO 1986-US1035 19860508; DE 3650572 G DE 1986-3650572 19860508, EP 1986-903806 19860508, WO 1986-US1035 19860508; SG 43886 A1 SG 1996-4009 19860508; JP 10152447 A Div ex JP 1986-503050 19860508, JP 1997-228501 19860508
FDT JP 08019005 B2 Based on JP 62503034, Based on WO 8606605; EP 222886 B1 Based on WO 8606605; DE 3650572 G Based on EP 222886, Based on WO 8606605
PRAI US 1985-731841 19850508; US 1986-860540 19860507

AB WO 8606605 A UPAB: 19940727

The system comprises administering to the patient, an NMR contrasting agent, containing paramagnetic metal ions, which is strongly complexed by a chelating agent in order to reduce its toxicity. The contrasting agent is characterised by its being capable of binding co-valently and non-immunologically to a component of the target tissue and as a result of

such binding is capable of enhancing relaxivity, or reducing the NMR relaxation times (T1 or T2), of water protons in contact with the biological tissue, by a factor of two or more as compared to that achieved

by a paramagnetic substance along.

Pref. the preferred chelating agents include aminocarboxylate deriv. or **porphyrin**.

USE/ADVANTAGE - The contrast agents, which bind tightly to proteins, are also taken up specifically by human hepatocytes, as compared to human reticuloendothelial cells, and because hepatocytes make up the bulk of the

liver, the system provides superior NMR imaging of the liver where the agent allow visualisation of hepatocarcinoma or metastatic tumours of the liver.

Dwg.0/0

Dwg.0/0

L25 ANSWER 1 OF 4 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

AN 1974-28938V [15] WPIDS

TI Rhodium-catalysed hydroformylation process - giving reduced induction times and increased reactivity.

DC E19

PA (UNOC) UNION OIL CO

CYC 1

PI US 3801646 A 19740402 (197415)*

PRAI US 1969-816117 19690414

AB US 3801646 A UPAB: 19930831

Hydroformulation process for the conversion of 2-25C olefins into carbonyl

derivs. in which the homogeneous Rh or Ir catalysts in liq. reaction medium are first contacted with CO under ≥ 1 atmos. press. before introducing the H2 to the system, where the catalyst is pref. a Rh or Ir **complex** of CO and a biphyllic **ligand** of structure **ER3** (where E = P, As, Bi, Sb, or P(O); R = 1-8C alkyl or 6-8 C aryl). The process is operated at 20-300 degrees F, 1-10000 atmos. and

CO

to H2 mole ratio of 1:10-10:1 the pref. catalyst is tris(triphenylphosphine) rhodium hydride carbonyl. Treatment of the system

with CO before admission of H2 produces a higher order of reactivity than using the reverse procedure. Induction times at start-up are reduced and prcess yields high ratio of normal to iso aldehyde prod.

L25 ANSWER 2 OF 4 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD

AN 1972-40438T [25] WPIDS

TI Hydrocarboxylation of ehtylenes - with isomer control of product acids ester(s) and anhydride(s) by product recycle.

DC E17
 PA (UNOC) UNION OIL CO CALIFORNIA
 CYC 1
 PI US 3668249 A 19720606 (197225)*
 PRAI US 1969-831982 19690610
 AB US 3668249 A UPAB: 19930831
 Improvement to the hydrocarboxylation reaction between a 2-25C unsatd. compd. $R_1, R_2C=CHR_3$ where $R_1, R_2, R_3 = H$, hydrocarbyl, CO, and a reactant selected from (a) H_2O , (b) a 2-25C carboxylic acid, (c) a 1-25C alcohol under liq. phase conditions in the presence of a Pd catalyst **complexed** with a biphyllic **ligand ER3** where E = trivalent P, As, Sb, Bi and R = 1-10C alkyl, 4-10C cycloalkyl, 6-10C aryl at 175-250 degrees C for reactant (a), 130-225 degrees C for (b) and 200-250 degrees C for (c) comprises separating linear and branched chain products and recycling one product to the reaction zone to increase the yield of the other product.

L25 ANSWER 3 OF 4 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 AN 1972-35303T [22] WPIDS
 TI Carboxylic acids isomer distbn control - using iron salt cocatalysts.
 DC E17
 PA (UNOC) UNION OIL CO
 CYC 1
 PI US 3661949 A (197222)*
 PRAI US 1969-832413 19690611
 AB US 3661949 A UPAB: 19930831
 Carboxylic acids are prepd. by the reaction of a C2-25 alpha-ethylenically unsatd. hydrocarbon with CO and water in a liquid medium contg. 0.002-2% wt. of a soluble salt, carbonyl, hydride or chelate of a gp. VIII noble metal **complexed** with a biphyllic **ligand ER3** (where E is P, As, Sb or Bi, R is C1-10 alkyl, C4-10 cycloalkyl or C6-10 aryl), at 70-300 degrees C in the presence of 0.002-3% wt. of (A) iron pentacarbonyl or di iron nonacarbonyl or (B) an iron chloride, bromide or iodide. The presence of (A) improves selectively to straight chain acids and the presence of (B) to branched chain acids. The linear acids are useful e.g. as detergents.

L25 ANSWER 4 OF 4 WPIDS COPYRIGHT 2000 DERWENT INFORMATION LTD
 AN 1972-26555T [17] WPIDS
 TI Esters of unsatd carboxylic acids - by carbonylation of olefin and carbonyl cpd using noble metal catalyst.
 DC A41 E17
 PA (UNOC) UNION OIL CO
 CYC 1
 PI US 3652655 A (197217)*
 PRAI US 1969-865489 19691010
 AB US 3652655 A UPAB: 19930000
 Esters (I) of mono-unsatd. carboxylic acids are prepd. by contacting a 2-16C olefin $R_2C=CHR_1$ where each R = H or alkyl, with a 2-30C aldehyde or ketone $R'CO.R'$, where each R' is H or alkyl and with CO, in the presence of a Gp. VIII noble metal **complexed** with a biphyllic **ligand** of formula **ER3"**, where E is trivalent P, As, Sb or Bi, and each R" is 1-10C alkyl, 4-10C cycloalkyl or 6-10C aryl. The process is esp. useful for producing butyl acrylate, a valuable monomer.